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ABSTRACT

This active, interdisciplinary place-based curriculum, which includes a teacher's guide, a student field journal, and a related photo packet introduces fourth and fifth grade students to the concept of landscape and heightens their awareness of the relationship between landscape and people. The curriculum program is designed to introduce students to the concept of landscape, while instilling a sense of curiosity about, and responsibility for, the landscapes around them. The program brings students through a learning cycle that starts and ends in their schoolyard and features a visit to the historic Arnold Arboretum (Jamaica Plain, Massachusetts). It was conceived with the belief that every landscape contains stories that offer opportunities to learn about the natural forces, historical experiences, and cultural expressions that make up the world and influence the individual's sense of self. Landscapes are outdoor classrooms and can be used to support a variety of learning standards and learning styles. The teacher's guide is divided into the following three sections: (1) "Introduction" (Picture This; Schoolyard Landscape Exploration, two parts); (2) "Teaching Plans for Student Activities" (Introducing Landscape; Developing a Perspective; Visiting the Arnold Arboretum; Making Connections); and (3) "Resources and Materials." The student field journal includes background information and activities that spark imagination, creativity, and self-confidence as students develop new skills and understanding. The field journal is divided into the following nine sections: (1) "What Is Landscape?"; (2) "Findings a Landscape"; (3) "Comparing Landscapes"; (4) "Schoolyard History Exploration"; (5) "Schoolyard Nature Exploration"; (6) "Schoolyard Art Exploration"; (7) "Getting Ready for Your Arboretum

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Adventure"; (8) "Designing Your Schoolyard Landscape"; and (9) "More Things to Read and Do." The field journal is printed in an easy-to-read format and contains many colorful illustrations designed to appeal to students. The photo packet is appended. (BT)

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Landscape Explorers

TEACHER'S GUIDE

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Landscape Explorers

Uncovering the Power of Place

TEACHER'S GUIDE

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The Landscape Explorers Teacher's Guide

Instruction for Use

Putting Your Guide Together

We recommend that you store this guide in a self-covering 9 1/2" x 11 1/2" three-ring binder with a 1" spine. The Teacher's Guide cover can slip into the front, plastic sleeve of the binder. The guide should be three-hole punched, ordered by page number, and put into the binder.

Using this Curriculum

Landscape Explorers is an active, interdisciplinary, place-based curriculum that introduces fourth and fifth grade students to the concept of landscape and heightens awareness of the relationship between landscape and people.

Each class participating in *Landscape Explorers* needs:

- A Teacher's Guide with background information and lesson plans to help teachers facilitate student learning activities.
- A Student Field Journal for each student. The Student Field Journal includes background information and activities that spark imagination, creativity, and self-confidence as students develop new skills and understanding.
- A Photopacket with nine 8 1/2" x 11" color photos of Boston-area landscapes that students use in a cooperative learning activity to heighten visual acuity and hone investigative skills.

For More Information

For more information on this curriculum or other programs at Frederick Law Olmsted National Historic Site, please contact the site's Education Specialist at (617) 566-1689, x 204.
Email: liza_stearns@nps.gov

Dear Teacher,

Thank you for arranging to take part in *Landscape Explorers: Uncovering the Power of Place*. The program is designed to introduce students to the concept of *landscape*, while instilling a sense of curiosity about, and responsibility for, the landscapes around them.

The program was conceived with the belief that every landscape contains stories that offer opportunities to learn about the natural forces, historical experiences, and cultural expressions that make up our world and influence our sense of self. Landscapes are wonderful outdoor classrooms, and can be used to support a variety of learning standards and learning styles.

We realize that many teachers are new to teaching about *landscape*, so have included background information and teaching plans to help you facilitate the student learning activities. In addition, each student receives a *Landscape Explorers Field Journal* of their very own. The activities in the field journal are designed to spark imagination, creativity, and self confidence, as students develop new skills and understanding.

Teaching elementary students about *landscape* is new for us, and we are extremely interested in your feedback. Please take time to write down the thoughts of you and your students on the enclosed evaluation forms. We will use your feedback to enhance the learning experience.

Again, thank you for taking part in *Landscape Explorers: Uncovering the Power of Place*. We hope you enjoy what promises to be a unique learning experience. Please feel free to contact the Arboretum at (617) 524-1718 if you have further questions or are in need of additional information.

We look forward to seeing you soon!

Diane Syverson
Manager of School Programs
Arnold Arboretum
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Program Theme and Objectives

Theme

Every day people interact with a variety of landscapes, from schoolyards to back yards, vacant lots to neighborhood parks. Our interactions with the land influence the look and feel of landscapes. A landscape is a view of the land; it is what we see with our eyes when we stand in a particular place. Landscapes are everywhere.

Hidden within landscapes are stories that help us understand the natural and cultural forces that shape landscapes and influence our sense of place. While no two people experience a single landscape in the same way, we are *all* affected by the landscapes in our lives.

Landscape Explorers: Uncovering the Power of Place challenges students to explore the stories embedded in landscape, and to consider their role in shaping and caring for the landscapes around them. Students use methods from the disciplines of science, history, and art to uncover the multiple dimensions of landscape, and develop skills essential for land stewardship.

Objectives

After using the field journal and participating in the field-based activity at the Arboretum, students will be able to:

- define landscape;
- discuss how different landscapes make them feel and identify some of the factors influencing their feelings;
- list at least two aspects of the natural world that influence the look and feel of a landscape;
- explain the collective role that people play in shaping and caring for landscapes.

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Acknowledgments

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rogram Overview

There was a child went forth every day,
And the first object he looked upon, that object he became,
And that object became part of him for the day or a certain part of the day,
Or for many years or stretching cycles of years.

Walt Whitman, "There Was a Child Went Forth,"
Leaves of Grass, written in 1855

Key Concept and Program Philosophy

Everyday students interact with a variety of landscapes, from schoolyards to backyards, vacant lots to neighborhood parks. Each landscape holds opportunities for exploration and self-discovery, and for building an affinity with the environment through understanding, awareness, and care. Our past experiences, values, and beliefs affect our responses to landscape. The interaction between landscape and the essence of what we bring to a landscape, gives rise to our unique sense of place. Children who understand the role of "place" in their evolving sense of self, tend to become adults with a commitment to conserving and enhancing their immediate neighborhoods and the larger landscapes of which they are a part.

Landscape Explorers: Uncovering the Power of Place teaches children to "read" landscapes, and helps them become aware of their role in shaping and caring for landscapes. The unit includes a multi-sensory, inquiry-based sequence of activities designed to sharpen visual acuity, verbal expression, and investigative skills. This approach validates individual learning styles, while cultivating a sense of personal worth, self confidence, and enduring curiosity.

Our hope is that students who take part in *Landscape Explorers* will walk through the world with a deeper appreciation of the value of landscape, an awareness of how landscape informs their sense of self, and a sustained sense of responsibility for the landscapes around them.

Program Description

Landscape Explorers is designed to bring students through a learning cycle that starts and ends in their schoolyard. After an introductory activity that uses photographic prints to introduce the concept of landscape, students embark on a schoolyard exploration that hones their observation skills, while prompting them to consider the relationship between landscape and feeling. Students then work in small groups, assuming the role of Artist, Naturalist, or Historian, to explore a particular aspect of landscape. A class discussion allows students to share their discipline-based discoveries, and the multifaceted

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nature of landscape begins to emerge. The pre-visit schoolyard activities help students develop the scaffolding needed for their Arboretum-based field experience. At the Arboretum, students continue their discipline-based landscape exploration. **Historians** explore the site of the old Bussey mansion, using observation and inquiry-based skills to gather clues about how people have used and valued land over time. **Naturalists** explore Hemlock Forest and get to know the land by observing natural phenomenon and recording what they have witnessed. **Artists** travel through Bussey Meadow to Spruce Woods where they explore how different landscapes make them feel, and capture their impressions in a collective landscape portrait. Students share their discoveries in a culminating activity that expands their understanding of landscape, while heightening their awareness of the role people play in shaping and caring for landscapes.

Back in the classroom, students harness their energy, imagination, and skills to design a schoolyard landscape that expresses their collective understanding of the relationship between landscapes and people.

Sequencing of Learning Activities

The Teacher's Guide includes a description of each pre- and post-visit learning activity. Each of these activities, with the exception of *Picture This! A Landscape Photo Investigation*, is included in the student Landscape Explorers Field Journal.

The learning activities are carefully sequenced to bring students through a learning cycle. However, feel free to adapt the activities to meet the needs of your students. Each learning activity in the Teacher's Guide suggests a minimum amount of time required for the activity.

In order to get the most out of the Arboretum exploration, we recommend that you do *Picture This! A Landscape Photo Investigation* and *Schoolyard Landscape Exploration* as a class, then divide the class into thirds to do the *Schoolyard History Exploration*, *Schoolyard Nature Exploration*, and *Schoolyard Art Exploration* respectively. The small group explorations take comparable amounts of time, and the outdoor, interview, and discussion components of each can be accomplished together as a class. **Steps that can be done together as a class are keyed by a logo in the margin.** The groupings of students you select for the small group explorations will continue their discipline-based explorations at the Arboretum.

If you are short on time, please make sure to do *Picture This! A Landscape Photo Investigation* and *Schoolyard Landscape Exploration*. These activities will provide students with knowledge and skills essential for a meaningful Arboretum adventure. In addition, we urge you to post your copy of the Landscape Explorers Map on a bulletin board to help familiarize students with the site of their Arboretum exploration.

The post-visit activity, *Designing Your Schoolyard Landscape*, affords students an opportunity to apply their new understanding to a familiar landscape, and is intended to encourage personal growth and continued interest in shaping the world in which they live.

Facilitating Learning Activities

Each learning activity in the *Landscape Explorers Teacher's Guide* follows a similar format designed to help you facilitate student learning:

Overview: A paragraph summarizing what your students will do, and how the learning activity ties to the overall program.

Learning Objectives: Measurable knowledge and skill outcomes that students should acquire from the learning activity.

Suggested Time: The minimum amount of time needed to complete the activity.

Materials: A list of the materials needed to do the learning activity.

Preparation: Things you should do before introducing the activity to the class. Preparation includes reviewing student and teacher instructions, surveying the schoolyard for safety issues, and determining student groupings.

Procedure: Instructions for facilitating the learning activity with students.

Assessment: Several questions designed to help you determine the extent to which your students have achieved the learning objectives.

Outdoor Learning

Most of the *Landscape Explorers* activities take place outdoors. Students may not be accustomed to working outdoors, and are apt to need clearly stated rules and careful supervision. We recommend that you establish rules before going outdoors so that students can focus their energy on the activity. You might want to create a list of rules as a class, then post the list where all students can see it. In addition, you will want to survey the schoolyard prior to the activity and set physical boundaries accordingly. Enlist the help of other adults, and make sure that everyone understands his or her role before leaving the classroom.

Cooperative Learning

Landscape Explorer activities are designed primarily for pairs and small groups of students. Many of the learning activities require students to share their observations. Since students engage in different activities, it is critical for them to listen to what others have discovered. To facilitate an exchange of information, have students record their observations carefully, and make sure they understand that sharing information is critical to making meaningful discoveries.

Group work can be challenging for students accustomed to working on their own. To help ensure group success, clearly define student roles and model behavior that supports positive group interactions. Remind students that each of them has a unique and valuable perspective. Rotate roles to ensure student involvement in all aspects of discovery.

Supporting the Massachusetts Curriculum Frameworks

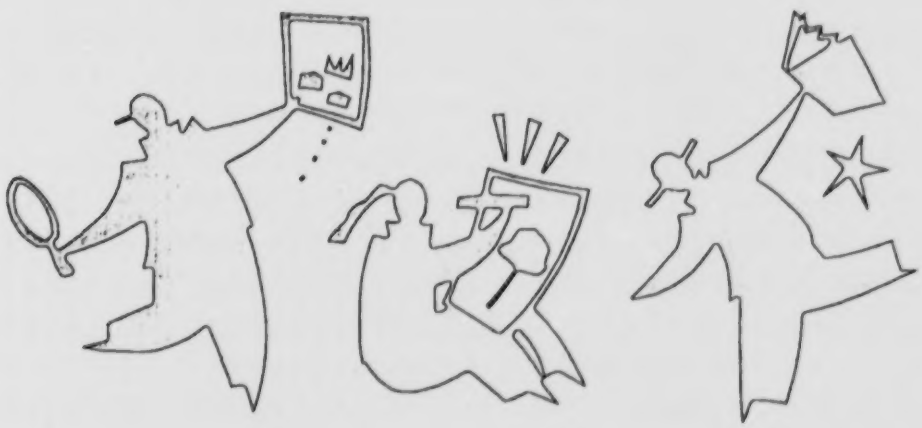
Landscape Explorers: Uncovering the Power of Place supports a number of learning standards outlined in the Massachusetts Curriculum Frameworks. For example, all students create and exhibit artwork individually and as members of a group; use observation skills to accomplish a variety of inquiry-based investigations; use evidence, imagination, and memory to infer meaning and make predictions about the phenomena they are investigating; and express hypotheses and findings using written and oral skills.

Historians interpret primary sources, investigate material culture, and conduct oral interviews to learn how and why landscapes change over time. They also use measuring tapes to extend their observations, and determine measurements using calculators and established mathematical equations. Historians record their findings in writing, and create a map to illustrate how a particular landscape was configured at a specific point in time.

Naturalists use observation skills and methods of inquiry to identify and document the variety of plants and animals that grow and live in different settings. Their investigative work demands an ability to observe and describe objects, identify details, and draw comparisons. In addition, investigative work requires extending observations by using hand lenses and measuring devices.

Artists use observation skills to capture their impressions of the schoolyard, then record the shapes, patterns, lines, colors and textures of things in their environment in a two-dimensional media. In addition, Artists use their senses, imagination, and memory to create a mural that is an original interpretation of an Arboretum landscape they have explored.

Each of the activities included in the *Landscape Explorers* program can be used to support extant curriculum, or serve as a starting point from which to build and develop new curriculum.



Picture This! A Landscape Photo Investigation

Overview

This activity engages students in an investigation of *landscape* using 11" x 14" photographic prints of different landscapes and landscape features. Students are divided into small groups, each of which works with a specific landscape photo and set of questions *(see Picture This! questions on pages 17-24)*. After answering questions about their particular image, students join another group to investigate photos from both groups, and answer questions on the back side of their question sheets. The activity concludes with groups sharing their findings with the class.

Learning Objectives

- Students are able to use their imaginations and photographic evidence to make inferences about the relationship between landscapes and people.
- Students can identify similarities and differences between different landscapes and landscape features.
- Students work successfully in cooperative groupings to accomplish a stated task.

Suggested Time: 60 minutes

30 minutes for photo investigation
30 minutes for classroom discussion

Materials

For each group of 3-4 students
one 11" x 14" photographic print
enough copies of the relevant two-sided question sheet for each student in the group

For the teacher
Landscape Photo Descriptions on pages 9-12 of Teacher's Guide
reproducible *Picture This!* questions on pages 13-20 of the Teacher's Guide
scissors
photocopier

Preparation

- Read the Landscape Photo Descriptions on pages 9-12 of the Teacher's Guide.
- Review the *Picture This!* questions on pages 13-20 of the Teacher's Guide.
- Determine groups of students.
- Photocopy the front and back of the *Picture This!* question sheets (question sheets are designed to be photocopied two-sided to two-sided, then cut in half); make sure that each student has a copy of the questions appropriate for his or her group
- Arrange the room for small group work.

Procedure

1. Grouping students

Divide students into small groups.

2. Distributing materials

Give each student group one 11" x 14" landscape photo, and enough question sets for each student in the group.

3. Defining roles

Have each group of students identify a **Recorder** and a **Reporter** for their group. The **Recorder** is responsible for writing down the group's responses to the questions. The **Reporter** is responsible for reporting the group's findings to the class.

4. Introducing the Arnold Arboretum

Read the Background section of the Photo Descriptions, then review the mission and history of the Arnold Arboretum with the students. Let the students know that they will be visiting the Arboretum as part of their landscape exploration, and that many of the photos in this activity were taken in the Arboretum.

5. Introducing the activity

Instruct students to work together to answer questions 1-5 under the heading, **Picture This! I.** When they are done answering these questions, have them find the group identified at the bottom of their sheet, and share their findings with that group.

6. Facilitating group jigsaws

Once the newly formed groups have shared their findings, have them identify a new **Recorder** and **Reporter.** Students should then turn their question sheets over, and work together to answer the questions under the heading, **Picture This! II.**

7. Discussing discoveries

Have each group share its photos and findings with the class.

Assessment

- Can students express their personal impressions of a place using their imagination and information extracted from photographic prints?
- Are students able to articulate similarities and differences between landscapes?
- Were all students actively involved in completing the assigned task?

Landscape Photo Descriptions

Background

The 265-acre Arnold Arboretum includes one of the world's finest collections of North American trees, shrubs, and vines. From its inception in 1872, the Arboretum was intended to be a living tree museum, a public park, and a laboratory for scientific investigations. The groundwork for this unique enterprise was laid with an early collaboration between the Arboretum's first director, Charles Sprague Sargent, and America's preeminent landscape architect, Frederick Law Olmsted. Sargent's scientific expertise combined with Olmsted's artistic skills made the pair uniquely qualified to undertake this unprecedented project. Together, the two created a landscape that serves the needs of a diverse constituency. The Arnold Arboretum is a unit of the Boston Park System, and an international center for scientific study and education.

The Arboretum land has had many uses over the years. Archaeological evidence suggests that people lived on the land 3000-7500 years ago, until climactic changes made it swampy and uninhabitable. Human activity resumed in the mid-17th century, when English settlers began farming the land and milling timber. In 1807, a wealthy Boston merchant, Benjamin Bussey, bought 210 acres of this land, and named his new estate "Woodland Hill," characterizing the hilly, wooded landscape. Bussey built a mansion for his retirement, and in 1815, moved to Woodland Hill with his wife, Judith. Bussey spent the balance of his years experimenting with farming techniques, and making scenic improvements for public enjoyment. At his death in 1842, Bussey willed Woodland Hill to Harvard University to establish an institute for the scientific study of agriculture. Of Bussey's original bequest, 120.4 acres of land eventually became part of the Arnold Arboretum.

In 1882, Harvard University and the City of Boston Parks Department entered into a formal agreement by which Harvard University agreed to give the City of Boston 122 acres of land, and the city agreed to lease that land to the University for one dollar a year for the next one thousand years. With this agreement, the Arnold Arboretum became part of the Boston Parks System, and began to fulfill its dual mission as a center for scientific study and a park for public enjoyment.

Hunnewell Building at Entrance to Arnold Arboretum, 1892.

The Hunnewell Building, located inside the Main Gate on the Arborway (route 203), was built 1891-1892. Olmsted and Sargent selected this site for the administrative building early in the planning process. Their goal was to situate the building near the main entrance, without detracting from the visitor's initial view of the landscape. They accomplished this by positioning the building on the hill, and constructing it of materials that blended with the landscape. For both Olmsted and Sargent, landscaping the Arboretum in a manner that made plants accessible to the public became as important as the inclusion of particular trees for scientific study; their planting and design plans underscore this philosophy.

This photo was taken during the construction of Meadow Road. Though not immediately apparent, the photo captures several of Olmsted's design principles. The bend in the road evokes an air of mystery, a design treatment Olmsted consistently used to whet people's appetites and entice them to explore further. Olmsted also believed in integrating natural features into his landscape designs. The hill, woods (background), and wetlands (far left), are natural features that Olmsted ultimately integrated into the landscape. While the Arboretum landscape has evolved during the past century, it remains one of the best preserved of Olmsted's landscapes in existence today.

Hunnewell Building at Entrance to Arnold Arboretum, 1996.

Today, the Arnold Arboretum is a national historic landmark and an international center for botanical and horticultural research and education. Throughout the year, the Arboretum offers a wide variety of programs, an exhibit, tours, and special events. School groups visit the Arboretum to learn how and why leaves change color, while resident and visiting botanists study plants of medicinal value. The Arboretum is more than a living tree museum, it is a place that has the potential to affect the lives of millions of people worldwide.

The Hunnewell Building is the Arboretum's administrative headquarters, and includes offices, exhibits, a library, and bookstore. When compared with the 1892 photo, this image shows the extent to which the landscape has changed over time. Less obvious are the natural features that have remained the same. The hill has been modestly regraded, but contains the essence of the original. The woods in the background, while not comprising the same trees as in the 1892 photo, retains the feel and effect of the original woods. Since 1892, the water from the wetlands across Meadow Road from the Hunnewell Building has been extensively re-channeled, but the land continues to be occupied by a meandering watercourse. *Students will drive past the Hunnewell Building on their way to the Landscape Explorers program site.*

Arboretum Summer II by Marcia Lloyd, 1988.

This painting, by Boston artist Marcia Lloyd, captures a view of Faxon Pond near the Forest Hills entrance to the Arboretum. Faxon Pond is one of three ponds constructed 1887-1891 on marshy land that the city intended for a lake. The lake was never built, and Arboretum Director, Charles Sprague Sargent, ordered workers to use extra substrate from Bussey Hill to fill the area to increase the amount of land for planting. The ponds were created as workers took peat from the sides of the substrate to fertilize new plantings. Today, few people realize that Dawson, Rehder, and Faxon Ponds were built by people because the area looks so natural. Designers used the land's most prominent natural feature - water - as the foundation for the plantings and features they integrated into this part of the Arboretum. Today, the ponds are home to bass, carp, bullfrogs, turtles, ducks, and migrating geese and herons. The ponds are also favorite spots for artists or people simply wishing to enjoy the scenery. *Students will be able to see Faxon Pond on the left as they drive down Meadow Road on their way to the Landscape Explorers program site.*

The Artist: Marcia Lloyd is a professor at Massachusetts College of Art. Lloyd has studied and painted at the Arboretum for many years. Arboretum Summer II was painted July-August 1988. While Arboretum Summer II is absent a human figure, the play between shadow and light, object and reflection, image and reality, evokes human presence, inviting viewers to imagine themselves sitting at water's edge or reading a book under the canopy of carefully grouped Hazelnut trees.

Hemlock Forest with Hemlock Log, Arnold Arboretum, 1996.

The Hemlock Forest includes the oldest stand of trees in the Arboretum. Though people cut trees from Hemlock Forest for a local saw mill in the 17th and 18th centuries, the forest retains a virgin stand of eastern hemlock, likely dating to pre-Columbian times. When Benjamin and Judith Bussey bought the land in 1807, they left Hemlock Forest virtually untouched, adding only a grape arbor and seating area at the top of the hill to provide visitors with views of the city and countryside. While the arbor is gone, Hemlock Hill retains spectacular views of the surrounding area. Hemlock Forest is adjacent to Bussey Meadow, a light-filled, spacious area that contrasts dramatically with the thickly treed forest. The placement of a meadow next to Hemlock Forest heightens the mystery and wildness of the forest and attracts many visitors. Today, people frequently walk the trails of Hemlock Forest to take advantage of what is one of the most quieting experiences available within the city limits.

The Hemlock log is one of many lying on the needle-covered floor of Hemlock Forest. When arborists take down aged trees, they often leave them on the forest floor to decompose. Decomposition nourishes the forest floor and spawns the start of a new growth cycle. Students learn more about this growth cycle, and what lives in the forest during their Arboretum field experience. *Students involved in the Naturalist's activity will explore things that live and grow in Hemlock Forest.*

Bussey Brook and Meadow from Spruce Woods, Arnold Arboretum, 1996.
The openness and light of Bussey Brook and Meadow contrast dramatically with the adjacent shade of the heavily treed Hemlock Forest. This contrast heightens the intrigue of each space, inviting visitors to move through and experience the differences of each. Contrast is a design feature Olmsted consistently integrated into his work to evoke a sense of mystery and the wild.

This photo was taken from the top of a slope that rises from Bussey Brook to a stand of conifers. The meadow was left open to give the public a panoramic view of the Spruce, Fir, and other conifers on the top of the slope. Beyond the Pine in the left foreground is a grove of Pine trees moved from Peter's Hill in the 1920s. The trees were moved to this location to give them room to develop to their fullest potential. As this photo illustrates, Bussey Meadow is surrounded by conifers, including Hemlock, Spruce, Fir, and Pine. *Students taking part in the Artist's activity explore the landscape as they walk along Bussey Brook, then travel up the hill to Spruce Woods to capture their impressions of the landscape in a discovery-based activity.*

Weeping Beech on Bussey Hill, Arnold Arboretum, 1996.
This Weeping Beech *(Fagus sylvatica 'pendula')* stands on Bussey Hill near the site of the old Bussey mansion. Botanists believe that the tree was planted when the Busseys lived on the land (1815-1849). The tree's massive trunk circumference and tremendous canopy reveal the tree's age. The Weeping Beech is unusual in that its branches stretch to the ground, giving rise to a thicket of new stems and branches. Today, visitors regularly duck beneath the boughs of the Weeping Beech to explore its pendulous limbs and take advantage of the shade offered by the dome-like canopy. *The Weeping Beech is located near the site of the old Bussey mansion. Students taking part in the Historian's activity will have a chance to explore the Beech and surrounding landscape.*

The Weeping Beech is related to the European Beech, a commanding tree with smooth gray bark that can reach as tall as 100 feet. According to the Arboretum's first director, Charles Sprague Sargent, the European Beech first appeared in American nurseries in 1820. Its rising popularity in the 19th century was probably tied to the romantic, picturesque landscape movement that brought English landscape features into American suburbs and parks. The European Beech in general, and the Weeping Beech in particular, are typically planted in areas that afford them room to grow to their fullest potential. In the 19th century, landscape architects advocated planting Beech on large estates and in parks for ornamentation, lining streets to create picturesque lanes, and planting groves of Beech in cities to mask buildings. The Beech continues to be a popular tree throughout the Northern Hemisphere.

View of Blue Hills from Bussey Hill Overlook, Arnold Arboretum, 1996.
Bussey Hill Overlook has been prized for its views for more than 150 years. When Benjamin and Judith Bussey lived on the property, 1815-1849, they built an observatory on the hilltop to take advantage of terrestrial and celestial views alike. According to Benjamin Bussey's probate record, at the time of his death in 1842, the observatory housed a couch, chairs, two telescopes, a painted carpet and several paintings. A well-worn path framed by Lilacs and White Pine linked the Bussey home to the observatory, suggesting the importance of the observatory during Bussey's lifetime.

Today, Bussey Hill Overlook is one of three hilltop overlooks in the Arboretum that offer what Frederick Law Olmsted called "borrowed views," views of features beyond the boundaries of the immediate landscape. People regularly trek to Bussey Hill Overlook to take advantage of spectacular views of the Blue Hills. This "borrowed view" gives viewers the impression that the Arboretum is much larger than it actually is. In truth, the Blue Hills are six miles from the Arboretum.

Central Square, Cambridge, 1996.

City landscapes, or cityscapes, can tell us a lot about society, and the values, beliefs and lifestyles of the people who live in and use the city. They also give clues as to the history of a place, and provide insight into social, cultural and technological trends that have shaped changes in the built environment. In some neighborhoods, people have joined together to conserve and enhance the built environment. Getting involved in these efforts helps people maintain a sense of identity with their cityscape, and increases the livability of the city or neighborhood.

This photo, taken at an intersection in Cambridge's Central Square, is rich with information about its residents. The restaurants and mural reflect the community's cultural diversity, while the bold artistry of the mural conveys a sense of community pride. The tree lined streets hint at the community's desire for shade and greenery, while the wide sidewalk with curb cuts suggests a desire to accommodate different types of pedestrian traffic. The architecture provides additional information that can be used to date the buildings. City blocks are powerful places, and people have the potential to be active agents in their conservation and enhancement.

Dudley Street Cliffs below Timilty Middle School, Roxbury, 1996.

The Dudley Cliffs are located in Roxbury across the street from Madison Park High School and below the Timilty Middle School. This 75-foot high outcropping of Roxbury puddingstone was designated an Urban Wild in 1976. Boston's Urban Wilds are a special collection of open spaces that give beauty and comfort to the neighborhood and tell us something about the history of the city, its landscapes, and geology. Dudley Cliffs was designated an Urban Wild because of its geologic significance and contribution to the community's character.

In 1973, New Dudley Street was constructed, blasting out forty feet of the Dudley Cliffs and leaving behind the dramatic rock face that we see today. The rock face is fractured with veins of iron, and dotted with clumps of grey birch that are evident in this photo. The cliffs are concave at the center, allowing red maple, quaking aspen and a variety of grasses to grow in soil kept moist from shade. Dudley Cliffs provide insight into the geologic composition of rock bed in this area of the city, and help us understand why the foundations of so many buildings in the area are made from Roxbury puddingstone. *Contact the Boston Natural Areas Fund at (617) 542-7696 to learn more about Boston's Urban Wilds.*

Hunnewell Building at Entrance to Arnold Arboretum

Compare the picture of the Hunnewell Building in 1892 with the picture from 1996.

1. What is the same? What is different?
2. If you could explore one of these landscapes, which would you explore? Why?
3. What sounds might you hear?
4. What might you smell?
5. How do you think the landscape would make you feel?

Find the group with the picture titled, **Arboretum Summer II by Marcia Lloyd, 1988. →**

Arboretum Summer II by Marcia Lloyd, 1988

Look carefully at the painting.

1. Why do you think the artist picked this view to paint?
2. What is she trying to tell you about this place?
3. If you could be somewhere in this painting, where would you be?
4. What would you be doing?
5. How does this place make you feel?

Find the group with the picture titled, ***Hunnewell Building at Entrance to Arnold Arboretum. →***

Picture This! II

Look at the **picture of the Hunnewell Building in 1892** and the picture of **Arboretum Summer II.**

Imagine you are one of the construction workers in the 1892 picture.

1. Explain why this construction project is taking place.

2. Do you think the construction project is a good idea?

Imagine you are the artist who painted the Arboretum Summer II.

3. If you could talk to the construction workers in the 1892 picture, what would you tell them about the Arnold Arboretum today?

4. Was the construction project worthwhile?

Be prepared to share your findings with the class!

Picture This! II

Look at the **picture of the Hunnewell Building in 1892** and the picture of **Arboretum Summer II.**

Imagine you are one of the construction workers in the 1892 picture.

1. Explain why this construction project is taking place.

2. Do you think the construction project is a good idea?

Imagine you are the artist who painted the Arboretum Summer II.

3. If you could talk to the construction workers in the 1892 picture, what would you tell them about the Arnold Arboretum today?

4. Was the construction project worthwhile?

Be prepared to share your findings with the class!

Picture This! I

Bussey Brook and Meadow from Spruce Woods, Arnold Arboretum, 1996

Imagine you are in this picture. It is a warm fall day. You are with two friends and you have a picnic lunch and blanket.

1. Where will you place your blanket for the picnic lunch? Why?
2. What sounds do you hear?
3. What do you smell?
4. How does this place make you feel?
5. How long will you stay? Why?

Find the group with the picture titled,
Hemlock Forest with Hemlock Log, Arnold Arboretum, 1996. →

Picture This! I

Hemlock Forest with Hemlock Log, Arnold Arboretum, 1996

Imagine you are standing in this picture.

1. What sounds do you hear?
2. What do you smell?
3. Are there a lot of people around you or are you by yourself?

   If there are other people, what are they doing?
4. If you were in Hemlock Forest for a day, how would you use the log?
5. If you were asked to put a path through the forest, where would you put it? Why?

Find the group with the picture titled, ***Bussey Brook and Meadow from Spruce Woods, Arnold Arboretum, 1996.*** →

Picture This! II

Look carefully at the photograph of **Bussey Brook and Meadow**. Hemlock Forest is in the background of the photograph. Hemlock Hill Road and Bussey Brook separate the forest from Bussey Meadow. Find these features, then answer these questions.

Imagine you have been in Hemlock Forest all morning. You are about to have lunch in Bussey Meadow.

1. How does it feel to leave the forest?
2. How is the meadow different from the forest?
3. Do you prefer the meadow or the forest? Why?

Now, imagine you are a rabbit and you are about to leave Hemlock Forest for Bussey Meadow.

4. What is going through your mind as you prepare to leave the forest? Why?

Be prepared to share your findings with the class!

Picture This! II

Look carefully at the photograph of **Bussey Brook and Meadow**. Hemlock Forest is in the background of the photograph. Hemlock Hill Road and Bussey Brook separate the forest from Bussey Meadow. Find these features, then answer these questions.

Imagine you have been in Hemlock Forest all morning. You are about to have lunch in Bussey Meadow.

1. How does it feel to leave the forest?
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Now, imagine you are a rabbit and you are about to leave Hemlock Forest for Bussey Meadow.

4. What is going through your mind as you prepare to leave the forest? Why?

Be prepared to share your findings with the class!

Picture This! I

Weeping Beech on Bussey Hill, Arnold Arboretum, 1996

Imagine you are standing in this picture.

1. What sounds do you hear?
2. What do you smell?
3. Are there a lot of people around you or are you by yourself?

   If there are other people, what are they doing?
4. Does this place make you feel calm or busy?
5. What do you think it would be like to stand beneath this tree?

Find the group with the picture titled, ***Central Square, Cambridge, 1996.*** →

Picture This! I

Central Square, Cambridge, 1996

Imagine you are standing in this picture.

1. What sounds do you hear?
2. What do you smell?
3. Are there a lot of people around you or are you by yourself?

   If there are other people, what are they doing?
4. What does this photograph tell you about the people who live in this neighborhood?
5. What steps have people taken to care for this area?

Find the group with the picture titled, ***Weeping Beech on Bussey Hill, Arnold Arboretum, 1996.*** →

icture This! II

Study the picture of **Central Square Cambridge, 1996** and the picture of **Weeping Beech on Bussey Hill, 1996.**

Imagine you have been asked to put the Weeping Beech in the Central Square landscape.

1. Where will you put the Weeping Beech?

   Why?

2. How will your placement of the Weeping Beech change the look of the landscape?

3. How will it change the way people use this street corner?

Be prepared to share your findings with the class!

icture This! II

Study the picture of **Central Square Cambridge, 1996** and the picture of **Weeping Beech on Bussey Hill, 1996.**

Imagine you have been asked to put the Weeping Beech in the Central Square landscape.

1. Where will you put the Weeping Beech?

   Why?

2. How will your placement of the Weeping Beech change the look of the landscape?

3. How will it change the way people use this street corner?

Be prepared to share your findings with the class!

Picture This! I

View of the Blue Hills from Bussey Hill Overlook, Arnold Arboretum, 1996

Imagine you are standing in this picture.

1. What sounds do you hear?
2. What do you smell?
3. Are there a lot of people around you or are you by yourself?

   If there are other people, what are they doing?
4. How far away do you think the Blue Hills are?
5. What impression of Boston's surrounding landscape does this view give you? Why?

Find the group with the picture titled, ***Dudley Street Cliffs below Timilty School, Roxbury, 1996.*** →

Picture This! I

Dudley Street Cliffs below Timilty School, Roxbury, 1996

Pick a place in this picture to stand. Once you have selected a place, answer these questions:

1. What sounds do you hear?
2. What do you smell?
3. How does this place make you feel?
4. In 1976, the Dudley Cliffs were declared an Urban Wild. What do you think an Urban Wild is?
5. Why do you think the Dudley Cliffs are called an Urban Wild?

Go find the group with the photograph titled, ***View of the Blue Hills from Bussey Hill Overlook, Arnold Arboretum, 1996*** →

Picture This! II

Look at the pictures of **Dudley Cliffs** and **Blue Hills from Bussey Hill Overlook.**

1. Do you prefer being up high and looking out over things, or being down low and looking up at things?

   Why?

2. If you were to climb to the top of Dudley Cliffs and look out, what do you think you would see?

3. If you could decide what people see from the top of Dudley Cliffs, what would *you* put in the view?

   Why?

Be prepared to share your findings with the class!

Picture This! II

Look at the pictures of **Dudley Cliffs** and **Blue Hills from Bussey Hill Overlook.**

1. Do you prefer being up high and looking out over things, or being down low and looking up at things?

   Why?

2. If you were to climb to the top of Dudley Cliffs and look out, what do you think you would see?

3. If you could decide what people see from the top of Dudley Cliffs, what would *you* put in the view?

   Why?

Be prepared to share your findings with the class!

Note to the Teacher

Landscapes are everywhere, yet few of us consciously think about landscapes, or consider how they influence the way we feel. *Schoolyard Landscape Exploration* is a two-part introductory activity that invites students to find two landscapes, identify their features, consider how the landscapes make them feel, and decide which landscape they prefer and why.

The first activity, *Finding a Landscape*, acquaints students with their schoolyard landscape and invites them to consider landscape's influence on human feelings. The second activity, *Comparing Landscapes*, prompts students to investigate their impressions of the landscapes they've viewed, and determine why they find one landscape more appealing than another.

Schoolyard Landscape Exploration: Finding a Landscape

Overview

Finding a Landscape is an observation-based activity that uses the schoolyard to increase student awareness of what is in a landscape. Students identify features in two schoolyard landscapes, and begin to assess how the different landscapes make them feel. We recommend that students conduct the *Finding a Landscape* activity in pairs to help focus the observation and encourage discussion. This activity lays the foundation for *Comparing Landscapes*.

Learning Objectives

- Students are able to identify features that give a landscape a particular look and feel.
- After talking about how the landscapes made them feel, students are able to speculate as to some of the reasons landscapes influence human feelings.

Suggested Time: 60 minutes

15 minutes to make a landscape activity
30 minutes for outdoor component
15 minutes for class discussion

Materials

For the student
scissors
pencil
questions and data sheets from the Landscape Explorers Field Journal
unfinished frame from the back cover of the field journal

For the teacher
a copy of the activity on pages 7-10 of the Landscape Explorers Field Journal

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Preparation

- Review the *Finding a Landscape* activity on pages 7-10 of the Field Journal.
- Determine pairs of students.
- Arrange a time for the entire class to use the schoolyard.

Procedure

1. Making a landscape viewer

Have each student make a landscape viewer using the frame in the back cover of their Field Journal and directions on page 7 of their Field Journal. Make sure every student knows how to frame a view before sending them into the schoolyard. Follow field journal instructions for framing a view.

2. Pairing students and defining roles

Organize students into pairs. Explain that every student will play the role of **Recorder** and **Viewer** as follows:

> **Student Roles**
> The **Viewer** selects and frames two views of the landscape. While observing each landscape view, the Viewer responds to the questions asked by the Recorder.
>
> The **Recorder** interviews the Viewer, asking the questions listed on page 8 of the Student Field Journal. The Recorder writes the Viewer's responses on the Schoolyard Exploration Data chart on page 9 of the Viewer's field journal. When the Viewer has framed and answered questions about **two** landscape views, the partners switch roles and repeat the steps.

3. Discussing schoolyard features

When students have completed the activity, ask them what they discovered about their schoolyard. Together, make a list of all the colors, shapes, natural and built features they found during their landscape viewing activity. Discuss the list in a manner that heightens students' awareness of what is in, or can be seen from, their schoolyard.

4. Discussing feelings

Once the students have created a list of schoolyard landscape features, ask them how the landscapes made them feel. Record their responses, encouraging students to explain themselves in as much detail as they wish. Ask students to speculate as to why particular landscapes elicited certain feelings.

Assessment

- Can students list colors, shapes, living and built features in the landscape?
- Are students are able to provide at least one example of how landscapes influence human feelings?

Comparing Landscapes

Overview

No two landscapes are alike and no two people experience a single landscape in the same way. We respond differently to landscapes because our impressions of a place are informed by our values, beliefs, and past experiences. *Comparing Landscapes* invites students to identify the similarities and differences in the landscapes they viewed in *Finding a Landscape*, and asks them to consider which view they prefer and why. Students do this activity alone to encourage independent thought and self awareness. *Comparing Landscapes* can be done in class or for homework.

Objectives

- Students compare and contrast two landscapes.
- Students begin to discern what they like about a particular landscape and why.

Suggested Time: 30 minutes

Materials

For the Students

completed Landscape Exploration Data sheets on pages 9 and 10 of their Field Journals

page 11 of the Landscape Explorers Field Journal

pencil & paper

For the Teacher

a copy of the *Comparing Landscapes* activity on page 11 of the Student Field Journal

Preparation

- Review the *Comparing Landscapes* activity.
- Think about student comments from the *Finding a Landscape* class discussion.

Procedure

1. Introducing the activity

Explain that each student will compare their impressions of the landscapes they viewed during the *Finding a Landscape* activity. Have them begin by listing four similarities and differences between the two landscapes. They can do this by comparing the information they collected in the *Finding a Landscape* activity. Their comparison should take into account the colors, shapes, natural and built features, and how the two landscapes made them feel.

2. Writing about a preferred landscape

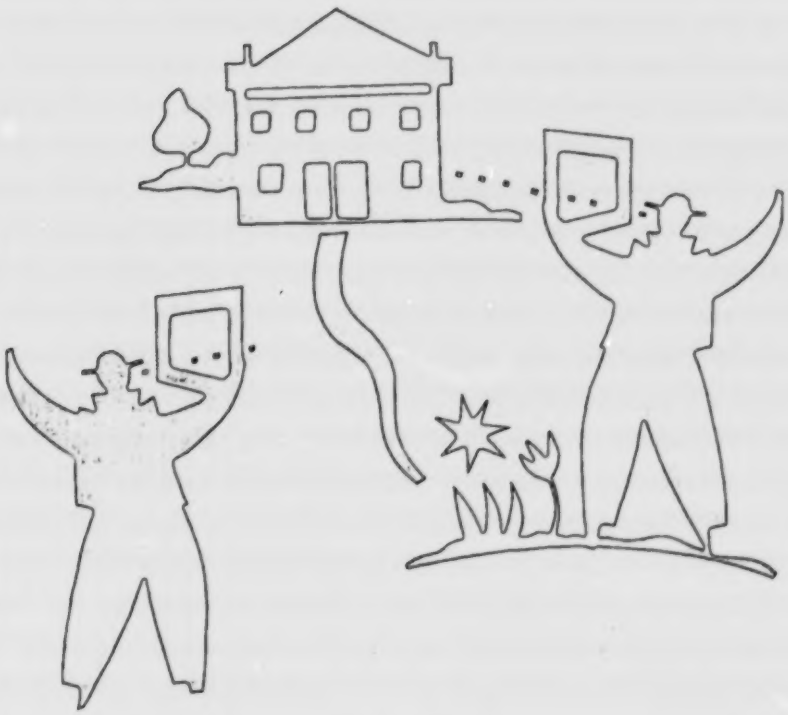
Once students have listed similarities and differences between the two landscape views, ask them to decide which of the two landscapes they prefer and why. Have students write a paragraph about their preferred landscape, including its name, a sentence on why they like this landscape better than the other, and a sentence describing how the landscape made them feel.

3. Reviewing student work

Collect and review the students' written work to assess the extent to which the learning objectives have been achieved.

Assessment

- Can students identify similarities and differences between two landscapes?
- Are students able to articulate why they prefer one landscape to another?



Schoolyard History Exploration

Overview

Every contemporary landscape contains stories about the past. This activity challenges students to look for clues in the schoolyard that can tell them something about the past and the extent to which people have changed the landscape. Students explore their schoolyard, compare an old photo of the schoolyard with the schoolyard today, and interview someone to find out what they know about changes in the schoolyard. The outdoor exploration is done in pairs to facilitate discussion and allow students to see the landscape through one another's eyes.

This activity prepares students to be Historian-Explorers during their Arboretum visit. While at the Arboretum, these students explore the site of the old Bussey mansion and look for clues to find out what the landscape may have looked like when the Busseys lived there (1815-1849).

Learning Objectives

- Students are able to identify evidence of change in the schoolyard landscape.
- Students are able to infer causes of change based on evidence.
- After discussing changes in the schoolyard, students can identify some of the ways people have influenced these changes.
- After the in-class interview, students are able to discuss the relationship between the way a particular landscape makes someone feel and that person's past experiences.

Suggested Time: 115 minutes

10 minute introduction
30 minute outdoor activity
15 minute photo activity (30 minutes if you have students locate the photo)
15 minute in-class interview
15 minute take home question
30 minutes class discussion

Materials

For each pair of students
two pencils
two copies of the *Schoolyard History Exploration* activity on pages 12-15 of the Field Journal

For the teacher
a copy of the *Schoolyard History Exploration* activity on pages 12-15 of the Field Journal
an old picture of the schoolyard (optional)

Preparation

- Review the *Schoolyard History Exploration* activity on pages 12-15 of the Landscape Explorers Field Journal.
- Determine pairs of students.

- Arrange a time for students to explore the schoolyard (coordinate with the outdoor components of *Schoolyard Art Exploration* and *Schoolyard Nature Exploration*).
- Find an old photo of the schoolyard (optional).
- Arrange for someone to come in for a class interview. The person should be someone who has witnessed changes to the schoolyard and is able to talk with students (Coordinate with interview components of *Schoolyard Art Exploration* and *Schoolyard Nature Exploration*).
- Set date and time for in-class interview.

Procedure

1. Pairing students

Organize students into pairs.

2. Introducing the activity

Explain that each pair is to look around the schoolyard for evidence of change. Students should record their findings in the History Exploration Chart on page 14 of their Field Journal. Encourage them to fill in as much as they can.

3. Comparing findings

Once the pairs have completed the outdoor activity, have them compare their findings. What have they discovered about the history of the schoolyard? Has it always looked as it does today?

4. Studying an old photograph

Arrange for the entire group of historians to view an old photo. You can send one or two representatives to the library or front office to locate a photo, or provide them with a photo you have already secured. Encourage students to compare the photo of the schoolyard to the schoolyard today, making note of similarities and differences. Have them record their findings in the History Exploration Chart on page 14 of their Field Journal.

5. Interviewing someone who has witnessed change

Arrange for the class to interview someone who has witnessed changes to the schoolyard. The person you select should be able to answer questions posed by students doing the History, Art and Nature Explorations (see activities on pages 13, 17, and 21 of the Student Field Journal). Make sure that the Historians ask the questions posed on the Interview Card on page 15 of the field journal, as well as any of their own.

6. Reflecting on findings

For homework, ask students to answer the questions posed in step four of the *Schoolyard History Exploration.*

7. Sharing discoveries

Have a class discussion in which Historians, Naturalists and Artists share their findings. What have students learned about their schoolyard?

Assessment

- Are students able to find evidence of change in the schoolyard?
- Can students speculate as to the causes of some of the changes?
- Can students provide one example of the role people have played in changing the landscape?
- Can students see a relationship among landscapes, feelings, and a person's past experiences?

Schoolyard Nature Exploration

Overview

Most contemporary landscapes are a blend of natural and built features. Natural features, like plants and animals, shape our experience of landscape. In this activity, students observe nature in the schoolyard and discover how living things contribute to the look and feel of a place. Students look for contrasting study sites: one that contains a variety of living things, and another that contains similar living things. By observing and recording their findings, students begin to find patterns about the things that grow and live together. Students work in small groups that enable them to share and discuss their observations.

This activity prepares students to be Naturalist-Explorers during their Arboretum visit. While at the Arboretum, these students explore Hemlock Forest, with its nearly 300-year-old trees, and make field notes to create a forest profile of the plants and animals that live in this native New England forest habitat.

Learning Objectives

- Students are able to notice and record the presence and frequency of living things in their everyday landscapes.
- Students are able to compare the overall findings from two study sites.
- Students are able to articulate one way that animals and plants affect the feel of their schoolyard landscape.

Suggested Time: 125 minutes

10 minute introduction
35 minute Study Site #1
25 minute Study Site #2
10 minute small group discussion
15 minute in-class interview
30 minute class discussion

Materials

For each group of four students
four Student Field Journals with field note recording sheets on pages 18 and 19
four pencils
one 4x-10x magnifying glass
two pieces of string, each 10 feet long
extra writing paper for notes and field drawings

Preparation

- Determine groups of students.
- Arrange a time for students to explore the schoolyard (coordinate with the outdoor components of *Schoolyard Art Exploration* and *Schoolyard History Exploration*).
- Walk around your schoolyard to look for potential study sites that might interest the students. Good study sites can range from asphalt and concrete areas, to weedy places or small woodlands. All sites must have some soil present to support plant life.
- Arrange for someone to come in for a class interview. The person should be someone who has witnessed changes to the schoolyard and is able to talk with students. (Coordinate with interview components of *Schoolyard Art Exploration* and *Schoolyard History Exploration*).
- Set date and time for in-class interview.
- Gather the supplies listed above.

Procedure

1. Grouping students

Organize students into small groups of 3-4 each.

2. Introducing the activity

Invite the students to think about what they know about the things that grow in the schoolyard. You may want to clarify that the word animal includes birds, insects, reptiles, amphibians and mammals, and that plants include grasses, wildflowers, weeds, shrubs, vines, and trees. If you have a map of your school ground, use it to focus your conversation. Invite students to speculate where contrasting study sites might be located.

Have teams walk around the schoolyard to choose their study sites. Ask them to record the locations of their sites in their notebooks.

3. Instructions for study sites

Students record and describe what they find living and growing in their two study sites on pages 18 and 19 of their Landscape Field Journal. They can record the kind of plant by using the plant's common name, making up a name, or assigning a letter for each plant they see. At each site, they count how many of each plant and animal they see to get a total population count. Students should count carefully in order to be accurate. This will be challenging if they select a wooded or grassy site. You may want to create a counting plan with students before they go outdoors. Once outdoors, students use the 10-foot strings to outline their study sites.

3. Comparing findings

Once the groups have completed the outdoor activity, have them compare their findings. They can use the questions from the "Share your discoveries" section on page 17 of the Student Field Journal to guide their discussion.

In addition, have students create a list of questions that they would like to ask someone who has known their schoolyard for a long time. They can ask these questions during the in-class interview.

4. Interviewing someone who has witnessed change

Arrange for the class to interview someone who has witnessed change in the schoolyard. The person you select should be able to answer questions posed by students doing the Nature, Art, and History Explorations (see activities on pages 13, 17, and 21 of the Student Field Journal). Make sure that the Naturalists share their discoveries with the visitor, and ask questions about what has grown in the schoolyard in the past.

5. Sharing discoveries
Have a class discussion in which Naturalists, Artists, and Historians share their findings. What have students learned about their schoolyard?

Assessment Questions

- Can students determine the most frequently occurring plant in their chosen study sites?
- Are students able to compare the overall findings from two study sites?
- Can students articulate one way that animals and plants affect the feel of their schoolyard landscape?

Schoolyard Art Exploration

Overview

By capturing and sharing our impressions of a landscape through art, we heighten our own awareness of place, and broaden the way others view landscape. This activity challenges students to identify the features that make up a particular landscape view, then capture their impression of that view in a drawing and in writing. Students work with a partner to discuss the features in their chosen view, then work alone to capture their impression of the view.

This activity prepares students to be Artist-Explorers during their Arboretum visit. While at the Arboretum, the students engage in a multi-sensory exploration of Bussey Meadow and Spruce Woods. Under the canopies of the largest Spruce trees in the Arboretum, each Artist creates his or her impression of a single aspect of the landscape. Students then combine their perspectives into a landscape collage that captures their collective impression of their landscape experience.

Learning Objectives

- Students are able to see and describe the significant colors and shapes represented in their chosen schoolyard view.
- Students can convey their impression of a place through drawing and in writing.

Suggested Time: 115 minutes

10 minute introduction
30 minute outdoor work with partner
30 minute drawing and writing activity
15 minute in-class interview
30 minute class discussion

Materials

For each pair of students
two copies of the Artist's Schoolyard Record on page 25 of the Landscape Explorers Field Journal
two landscape viewers from the back cover of the Student Field Journals
two clipboards
two soft lead pencils with erasers
paper for drawing
assorted colored pencils

Preparation

- Determine pairs of students.
- Arrange a time for students to explore the schoolyard (coordinate with the outdoor components of *Schoolyard History Exploration* and *Schoolyard Nature Exploration*).
- Review the *Schoolyard Art Exploration* activity on pages 21-22 of the Student Field Journal.
- Walk in the schoolyard to get a sense of the range of landscape views. Which views are likely to attract students?

- Arrange for someone to come in for a class interview. The person should be someone who is comfortable talking with students. (Coordinate with interview components of *Schoolyard History Exploration* and *Schoolyard Nature Exploration*).
- Set date and time for in-class interview.
- Gather the supplies listed above. (Inexpensive clipboards can be made from pieces of corrugated cardboard with an elastic band to hold the paper. Select colored pencils, making sure to include a generous supply of earth tones.)

Procedure

1. Pairing students
Organize students into pairs.

2. Introducing the activity
Introduce this activity to students by talking about the view out your classroom window. What do they see? What colors and shapes? What color(s) do they see the most often? Since students made an inventory of schoolyard colors in the introductory activity, encourage them to expand their color vocabulary. For example, can they find words to describe each shade of brown? How does the schoolyard color palette change with the seasons? Are the colors of the natural and built elements the same or different?

3. Using the landscape viewer
Outdoors, encourage students to hold their landscape viewer away from their face so the view they select is not too large. This will make the drawing task less challenging for students who are new to drawing. Have students find four landscape features to mark the four corners of their view. This is the view they will study and draw.

4. Discussing the landscape features
Have students discuss their landscape view with their partner, and complete the Artist's Schoolyard Record on page22 of the Student Field Journal.

5. Capturing the view
Emphasize that each student's drawing is his/her interpretation of a view and not meant to be like a photograph. Some students may want to draw the shapes and colors only, others may be interested in capturing all the details.

6. Interviewing someone who knows the schoolyard
Arrange for the class to interview someone who is familiar with the schoolyard. The person you select should be able to answer questions posed by students doing the Art, Nature and History Explorations (see activities on pages 13, 17, and 21 of the Student Field Journal). Have the students ask the visitor what shapes and colors come to mind when they think of the schoolyard. Are any of these shapes or colors in the students' artwork? How does the visitor feel about the landscape? Did any of the students capture similar feelings in their artwork?

7. Sharing discoveries
Have a class discussion in which Artists, Naturalists, and Historians share their findings. What have students learned about their schoolyard?

Assessment Questions

Are students able to describe the specific colors and shapes in their selected view?

Can students convey their impression of a place through an artistic medium and in writing?

Preparing for Your Visit

We are pleased that your class is coming to the Arnold Arboretum to explore your new ideas about landscape. The Arboretum activities build on what students have done in the classroom, allowing Historians, Naturalists, and Artists to continue their landscape explorations in small groups. The Landscape Explorers Map in the back pocket of the Teacher's Guide shows some of the features that students will explore. A written description of the Arboretum Landscape Exploration is on pages 23-24 of the Student Field Journal.

We want you to have a safe, enjoyable, and meaningful visit. Please use the following checklist and itinerary to help plan for your Arboretum adventure.

What To Bring: Landscape Explorers Checklist

❑ ***Landscape Explorers Field Journal*** *Students will use their field journals during the culminating activity. Please store them in a large box on the bus until they are needed.*

❑ ***Appropriate Outdoor Clothing*** *We will be outdoors for three hours. Everyone should wear clothes that keep them warm and dry, and shoes that can get scuffed and wet.*

❑ ***Name Tags*** *Everyone should wear a name tag. Stick-on mailing labels are fine.*

❑ ***Lunches*** *A lunch break is included in your program itinerary. Please put individual brown bag lunches in three separate boxes labeled Historian, Naturalist, and Artist.*

❑ ***Snacks*** *If students are accustomed to a mid-morning snack, please plan for them to snack before the program begins.*

❑ ***Individualized Medical Supplies*** *Please bring appropriate medical supplies to treat students with medical conditions such as asthma, diabetes, or allergies to bee stings.*

Itinerary

10:00	**arrive at Hunnewell Building, pick up program leaders** *The Hunnewell Building is located inside the Arboretum's main gate off the Arborway, Route 203.*
10:15	**arrive at program site, form exploration groups**
10:30	**small group landscape explorations**
12:00	**lunch and bathrooms**
12:20	**culminating activity**
1:00	**depart**

Please see your confirmation form for specific information on your class visit. If you have additional questions, contact the Arnold Arboretum at (617) 524-1718, ext. 164.

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Designing Your Schoolyard Landscape

Overview

Designing landscapes requires an understanding of how landscapes affect people, and an ability to harness imagination to improve quality of life. In this activity, students draw on knowledge and skills acquired during their schoolyard and Arboretum explorations to redesign a section of their schoolyard landscape. Students work in small groups to identify who uses the schoolyard and the things they like and dislike about the schoolyard. Students use this information to determine landscape features to include in their design. Students conclude small group work by creating a mural that depicts their schoolyard design. In a culminating activity, students review all the designs and make revisions to create a functional and aesthetically pleasing schoolyard.

Objectives

- Students are able to explain why designing landscapes requires an understanding of who uses the area, and an awareness of what people like and dislike about the area.
- Students are able to work cooperatively to accomplish a shared vision.

Suggested Time: 120 minutes

10 minute introduction
30 minute site selection and design discussion
45 minute mural work
35 minute class discussion

Materials

For each group of 3-4 students
four pencils
lined paper
four copies of the chart on page 28 of Landscape Explorers Field Journal
one sheet of mural paper
a variety of colored markers, crayons, and/or pencils

For the teacher
a copy of *Designing Your Schoolyard Landscape* on pages 26-28 of the Student Field Journal

Preparation

- Determine groups of students.
- Divide the schoolyard into sections, or determine a method for ensuring that student groups select different sections of the schoolyard for their design project.
- Arrange a time for the entire class to use the schoolyard.

Procedure

1. Grouping students

Divide the class into small working groups of 3-4 students each.

2. Introducing the activity

Provide students with an overview of the activity, stressing the importance of studying the existing landscape closely, listening to one another's ideas, and working toward a shared vision.

3. Studying the design site

Allow students 15 minutes outdoors to study their section of the schoolyard. Encourage them to talk with other students about what they like and dislike about that area of the schoolyard.

4. Brainstorming design features

Once students have studied their chosen sections of the schoolyard, give them ten minutes to brainstorm a list of features they think the schoolyard should have. Have them select four features to include in their section of the schoolyard, and complete the chart on page 28 of their Field Journal.

5. Creating a landscape design mural

Encourage students to discuss what their landscape will look like, then provide them with materials to make a landscape design mural. You may wish to do this activity in several sittings. *Note: Before allowing the students to draw their landscape design, make sure that they have developed a process for ensuring that the ideas of all group members are considered.*

6. Writing about the landscape design

Once students have created their mural, have them write a paragraph that describes their design. The paragraph should include who they hope will use the landscape, how it will be used, and how they expect the landscape to make people feel. Students should give their landscape a descriptive name.

7. Sharing the landscape designs

Allow students to share their design ideas with the class. Have each group present and describe their design. Student presentations should include the following information:

- The section of the schoolyard they re-designed.
- What they discovered about the people who use that section of the schoolyard (Who are they? What are their likes and dislikes?).
- For whom they designed the landscape.
- How they expect the new landscape to be used.
- What effect they hope the landscape will have on people.
- What they've named the landscape and why.

8. Creating a holistic schoolyard design

Once students have shared their design ideas, ask them to consider the schoolyard as a whole. Do all the newly designed sections fit together to make a schoolyard that works? Are there too many of some features? Not enough of others? What revisions can they make as a class to make their schoolyard the best it can be. Brainstorm the suggestions and talk about what it takes to design a landscape that is creative, fun, and functional.

Assessment

- Are student landscape designs conceived with an understanding of who uses the area?
- Do landscape designs reflect an awareness of user likes and dislikes?
- Have students demonstrated respect for each other's ideas and skills, and harnessed these resources to create their landscape design?

Teacher Resources

Places to Visit

Olmsted National Historic Site

Frederick Law Olmsted was the country's first professional landscape architect. His home, office, and garden are now a national historic site administered by the National Park Service. The site includes the Olmsted Archives, which houses plans, drawings and photos related to the Olmsted firm's landscape design projects. In addition, the site is the base for the Olmsted Center for Landscape Preservation which assists the National Park Service in preserving and conserving cultural landscapes. Olmsted National Historic Site, located at 99 Warren Street in Brookline, is open to the public and offers visitors an opportunity to learn more about Olmsted's work and life through exhibits and tours. Call for information on hours, tours, and special programs (617) 566-1689.

More on Frederick Law Olmsted: During the middle of the 19th century the Industrial Revolution swept through New England. Urban centers replaced vast tracts of farm land, factories crowded river banks, and industrial waste found its way into once clean rivers. While the Industrial Revolution held the promise of improving quality of life, it also posed a serious threat to the environment and the health of the people. One person who recognized and sought to resolve this paradox was landscape architect Frederick Law Olmsted.

Olmsted believed that city parks and green spaces were essential for human health and well being. In response to increased urbanization and industrialization, he designed parks that brought green space to the city and served as a meeting ground for people from all walks of life. During his lifetime, Olmsted, his sons, and associates designed thousands of landscapes from coast to coast. Locally, Olmsted designed five miles of Boston's Emerald Necklace, a seven mile chain of parks, ponds, and greenways that link different parts of the city.

Boston's Emerald Necklace

Olmsted designed Boston's Emerald Necklace in the 1880s. His goal was to create a chain of parks, ponds, and green spaces to link different parts of the city. Below are some of the parks and green spaces included in the necklace. For information on tours of the Emerald Necklace, contact the Boston Park Rangers at (617) 522-2639, or Olmsted National Historic Site at (617) 566-1689.

Arnold Arboretum: The 265-acre Arnold Arboretum includes one of the world's finest collections of North American trees, shrubs, and vines. From its inception in 1872, the Arboretum was intended to be a living tree museum, a public park, and a laboratory for scientific investigations. The groundwork for this unique enterprise was laid with an early collaboration between the Arboretum's first director, Charles Sprague Sargent, and America's preeminent landscape architect, Frederick Law Olmsted. The merging of Sargent's scientific expertise with Olmsted's artistic skills fostered the creation of a landscape that serves the interests of general public and researchers alike.

Back Bay Fens: The Back Bay Fens is the last evidence of a huge tidal marsh that existed in the area until the mid-19th century. As the city grew, the Bay became increasingly polluted. Much of it was filled in to form the Back Bay Neighborhood. Olmsted's design sought to return the last vestige of the Back Bay to its former state: a fen or marsh. Today the Fens offers people an opportunity to walk, play basketball, or simply sit and watch the day go by.

Boston Common: More than 300 years old, the Boston Common is the oldest park in the country. The Common has been used for everything from cattle grazing (until 1830) to political rallies. Today, the Boston Common is one of Boston's most popular public attractions. It is located at the foot of the State House, and is the first in a series of parks that stretches from downtown Boston to surrounding suburban neighborhoods.

Boston Public Garden: If the Boston Common seems a bit subdued, then one need only cross Charles St. to the most "showy" part of the Emerald Necklace. Boston's Public Garden is the country's first public botanical garden, and today bears little resemblance to the botanical laboratory its original planners intended. From mechanical swans that carry visitors across an open pond, to carefully arranged beds of brightly colored flowers, the Boston Public Garden has become one of the city's most widely recognized landmarks.

Jamaica Pond: Formed over 10,000 years ago by titanic glaciers, Jamaica Pond was once the main water source for the city of Boston. Olmsted' s design attempted to keep its natural character intact while providing a place for people to boat, picnic, or enjoy the scenery. Today, the pond is a magnet for urban anglers, joggers, and people with a thirst for walking.

Franklin Park: Franklin Park has been called the crown jewel of the Emerald Necklace. It is certainly the largest "jewel" – over 500 acres of land! Olmsted designed the park with the intention of providing open space for people living in an increasingly crowded city. Today the park includes a golf course, zoo, tennis courts, and a cross country running track. Some say that when you are in Franklin Park the city feels miles away.

Printed Materials

Books for Children

Blizzard, Gladys S. ***Come Look with Me: Exploring Landscape Art with Children.*** Charlottesville, VA: Thomasson-Grant, Inc., 1992
Art educator Gladys S. Blizzard introduces children to 12 landscape paintings in a manner that prompts them to look imaginatively at art. Includes beautiful, full color illustrations, biographical information on the artist, and useful questions for generating thought and discussion. Well-suited for family or classroom use.

Cornell, Joseph. ***Journey to the Heart of Nature.*** Nevada City, CA: Dawn Publications, 1994.
This book takes young people, ages 12-17, on a guided exploration of some "special place" in nature. Readers explore a location like an urban park or rural forest, learn to "hear" the voice of nature, and are given ideas about what they can do to care for the area they've explored.

Dee, Catherine. ***Kid Heroes of the Environment: Simple Things that Real Kids are Doing to Save the Earth.*** Berkeley, CA: Earth Works Press, 1991.
Twenty-five engaging stories about things youth are doing to care for the environment.

DiSalvo-Ryan, DyAnne. ***City Green.*** New York, NY: William Morrow and Company, 1994.
This children's book sends an inspiring message about the possibilities that exist when people work together. An empty lot in Marcy's neighborhood once held an apartment building but is now an eyesore. Marcy joins with neighbors of all ages and ethnic backgrounds to turn the lot into beautiful gardens. The book closes with practical suggestions for starting a community garden.

Leslie, Claire Walker. ***Nature All Year Long.*** New York, NY: Greenwillow Books, 1991.
This diary of nature's seasonal events is organized in monthly installments for readers, grades 4 to adult. The illustrations take on the look of field notes, showing what you might observe outdoors in a given month. The text informs you about the plants and animals which inhabit the New England landscape.

Silver, Donald M. ***One Small Square Backyard.*** New York, NY: W.H. Freeman and Company, 1993.
This book, teaches children, grades 4 and higher, about plants and animals that live among us. Colorful illustrations, questions, and simple text introduce readers to aspects of the natural world that we rarely take time to notice. Part of the *One Small Square* series in *A Scientific American Books for Young Readers.*

Books for Adults

Hay, Ida. ***Science in the Pleasure Ground: A History of the Arnold Arboretum.***
Boston: Northeastern University Press, 1995.
A beautifully illustrated volume that offers a comprehensive history of the Arboretum's pioneering role in successfully blending scientific study with public recreation and aesthetic display. Includes social and cultural history, as well as information on scientific and botanical trends that influenced the Arboretum's development.

Hiss, Tony. ***The Experience of Place.*** New York, NY: Alfred A. Knopf, 1990.
Hiss explores peoples' responses to particular places, and suggests ways that we can transform even mediocre or unpleasant surroundings into places that soothe and refresh us.

Nabhan, Gary Paul and Stephen Trimble. ***The Geography of Childhood: Why Children Need Wild Places.*** Boston: Beacon Press, 1994.
A series of essays exploring the influence that natural settings, native plants, and wild animals have on toddlers and teenagers, girls and boys, family and community traditions, and cultures. An excellent resource for generating thought about the role of "the wild" in giving children an understanding of the spaces in which they live.

Thomashow, Mitchell. ***Ecological Identity: Becoming a Reflective Environmentalist.***
Cambridge, MA: MIT Press, 1996.
This book describes how environmental studies can be taught from a perspective that is deeply informed by personal reflection. Through theoretical discussion, as well as suggestions for participatory learning, Thomashow provides teachers and students with tools for becoming reflective environmentalists.

Walthers, Catherine. ***A Greener Boston: An Environmental Resource Directory for the Greater Boston Area.*** San Francisco, CA: Chronicle Books, 1992.
A comprehensive guide to existing environmental resources and efforts in the Boston area, as well as information on where to turn for help with specific environmental projects in your home or community.

Zaitzevsky, Cynthia. ***Frederick Law Olmsted and the Boston Park System.*** Cambridge, MA: The Belknap Press of Harvard University, 1982.
A richly detailed and fully illustrated account of the design and construction of Olmsted's Boston parks.

Publications

Green Teacher: Education for Planet Earth. Oshawa, Ontario: General Printers.
Green Teacher is a non-profit publication, written by and for educators, to enhance environmental and global education across the curriculum at all grade levels. The magazine is published five times during the school year: October, December, February, April and June. For more information, contact call Green Teacher in Canada at (416) 960-1244.

——. ***Transforming School Grounds, Issue 47,*** April-May 1996.
This issue of *Green Teacher* focuses on transforming school grounds. The edition includes articles such as, "A Diverse Dozen: Habitats for Healthy School Grounds," "The Influence of Schoolyards on Behaviour," and "Outdoor Classrooms: The Learning Links." In addition, the publication includes a list of schoolyard naturalization organizations that offer resources and teacher training on ways for enhancing schoolyards to meet curricular needs and learning standards.

Historic Parks and Gardens. English Heritage Education Series. English Heritage, PO Box 229, Northampton, England.
Parks and gardens offer important clues as to how people lived in the past. This publication contains ideas for using parks and gardens to enhance student knowledge and skill development across the curriculum.

Ives, Susan. "A Conversation with Robert Haas," in ***Land and People, volume 8, no. 2.*** A publication of the Trust for Public Lands, Fall 1996.
This interview with Poet Laureate, Robert Haas, brings to light the nature and extent to which landscape influences one's writing, poetry, and sense of self. Haas describes "River of Words," an Environmental Poetry and Art Contest designed to encourage artistic expression and environmental awareness among the country's youth.

Landscape: Who Needs It? National Park Service: Partners in Education, Olmsted National Historic Site, 1993.
This activity guide is designed to help teachers, grades 4-6, introduce students to the concept of landscape and landscape design. While written for classes planning a visit to Olmsted National Historic Site, the activities are suitable for classes wishing to explore parks and green spaces in their community. **Free while supplies last.** Contact Olmsted National Historic Site at (617) 566-1689 to receive a copy.

Von Tscharner, Renata and Ronald Lee Fleming. ***A Changing American Cityscape.*** Palo Alto, CA: Dale Seymour Publications, 1993.
This curriculum kit includes seven 12" x 33" color posters that depict the evolution of New Providence, an imaginary American city, from 1875 to 1990. A Viewer's Guide provides descriptions of each poster, questions to guide exploration and prompt discussion, and suggested classroom activities. *A Changing American Cityscape* involves youth in thinking about things they can do to shape and care for the built environment. Available through: Dale Seymour Publications, PO Box 10888, Palo Alto, CA 94303.

Computer Programs

SimCity. Maksis Software. Moraga, California, 1989.
This computer game challenges users to become city planners. You decide where to put roads, buildings, parks, electricity, and all the other things needed in a city, and the program lets you know the public rating your decisions elicit. An interactive way to introduce students to city planning.

NATIONAL ENDOWMENT FOR THE ARTS

1st edition March 1997

Landscape Explorers

FIELD JOURNAL

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The Landscape Explorers Student Field Journal

Instruction for Use

Putting Your Guide(s) Together

We recommend that you store the Student Field Journal in a self-covering 9 1/2" x 11 1/2" three-ring binder with a 1" spine. The front and back covers should be slipped into the clear, plastic front and back sleeves of the binder. The map should be folded and tucked into the pocket of the binder. The remaining pages should be cut in half on the dotted lines. These pages should be 3-hole-punched where indicated, ordered by page number and placed into the guide.

Using this Curriculum

Landscape Explorers is an active, interdisciplinary, place-based curriculum that introduces fourth and fifth grade students to the concept of landscape and heightens awareness of the relationship between landscape and people.

Each class participating in *Landscape Explorers* needs:

- A Teacher's Guide with background information and lesson plans to help teachers facilitate student learning activities.
- A Student Field Journal for each student. The Student Field Journal includes background information and activities that spark imagination, creativity, and self-confidence as students develop new skills and understanding.
- A Photopacket with nine 8 1/2" x 11" color photos of Boston-area landscapes that students use with "Picture This!," a cooperative learning activity to heighten visual acuity and hone investigative skills.

For More Information

For more information on this curriculum or other programs at Frederick Law Olmsted National Historic Site, please contact the site's Education Specialist at (617) 566-1689, x 204. Email: liza_stearns@nps.gov

Landscape Explorers

FIELD JOURNAL

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Acknowledgments

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Landscape Explorers:
Uncovering the Power of Place

My name:

.....

The date I began using this field journal:

.....

The date I visited the Arnold Arboretum:

.....

My landscape explorer role:

.....

hat's in Your Field Journal

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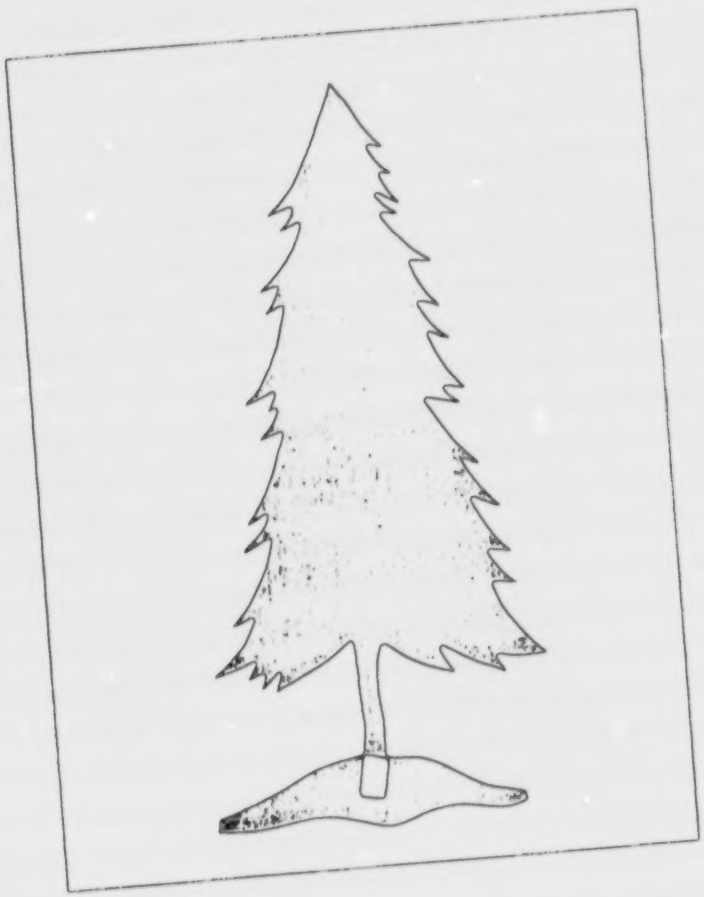

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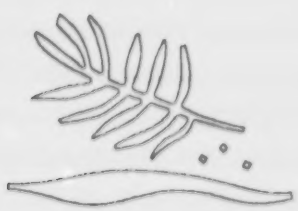
What is Landscape?

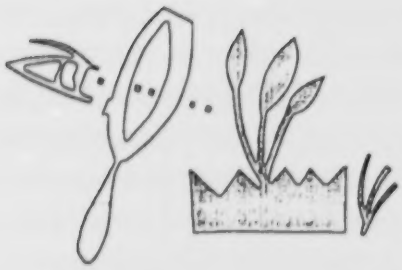
Imagine you are standing on a sidewalk in the middle of Boston. Buildings tower over you. Cars rush by. Someone pushes a hotdog cart your way. What do you hear? What do you smell? What do you see? How does this place make you feel?

Now, you are sitting next to a stream that runs through a city park. Trees rise up around you. Imagine that you hear birds and the sounds of a friend riding her bicycle nearby. How does this place make you feel?

Chances are, the two places make you feel very different. That is the power of landscape.

So what do we mean when we use the word "landscape?" A landscape is a view of the land. It is what we see when we stand in a particular place. To find a landscape, just go outside and look around. What you see before you is landscape. Schoolyards. Backyards. Vacant lots. Neighborhood parks. Landscapes are all around us.





Everyday landscapes affect the way we feel and the things we do. Landscapes can make us smile or feel grumpy. They can make us feel like being quiet or loud. While we are all affected by landscapes, no two people experience a single landscape in the same way.

Just as landscapes affect people, people have the power to change landscapes. We decide how to use a piece of land. We can build a house on it, or create a neighborhood garden. We can pave the land to make a parking lot, or plant grass and trees to make a city park. How we use land is based on our needs and desires. The decisions we make affect the landscapes around us. The way we use land today will affect the look and feel of landscapes for years to come.

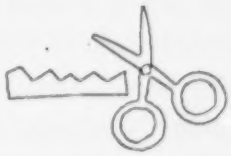
Schoolyard Landscape Exploration

Finding a Landscape

Have you ever explored your schoolyard landscape? Become a landscape explorer and uncover what gives your schoolyard its personality. You will need a partner, a pair of scissors, and a pencil.

Creating a Landscape Viewer

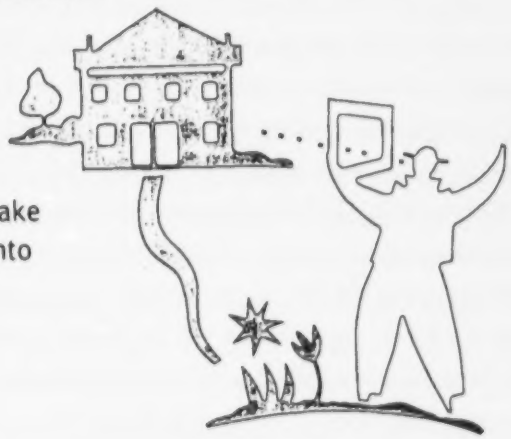
Remove the sheet from the back cover of your Landscape Explorers Field Journal.



Create a frame by cutting a hole along the dotted line. You now have your own landscape viewer!

Taking on a Role & Capturing a Landscape

You and your partner will take turns playing the role of Viewer and Recorder. So choose a role, make a plan, and go out into the schoolyard!



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Viewer: Your mission is to capture a landscape with your frame and describe it to your partner. To use the viewing frame, hold it a few inches away from your face and close one eye.

Recorder: Once your partner frames a view of the landscape, help them describe what they see. Your mission is to discuss the following questions with your partner, and record their observations on page 9.

- What colors and shapes do you see?
- What parts of the landscape were created by humans?
- What lives in this landscape?
- How does this landscape make you feel? *Calm? Happy? Grumpy?*
- Give this landscape a name.

Now, ask your partner to find another view by moving the frame. Help them find a view that has a different feeling. Discuss the same questions, and record their observations on page 10. Give the completed data sheets to your partner.

Switching Roles Now, switch roles and go to a different area. Repeat the steps and record the observations on pages 9 & 10 in the field journal.

Schoolyard Exploration Data

Landscape #1

- What colors and shapes do you see?

.....

.....

- What parts of the landscape were created by humans?

.....

- What lives in this landscape?

.....

- How does this landscape make you feel?

.....

.....

- Give this landscape a name.

.....

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Schoolyard Exploration Data

Landscape #2

- What colors and shapes do you see?

.....

.....

- What parts of the landscape were created by humans?

.....

- What lives in this landscape?

.....

- How does this landscape make you feel?

.....

.....

- Give this landscape a name.

.....

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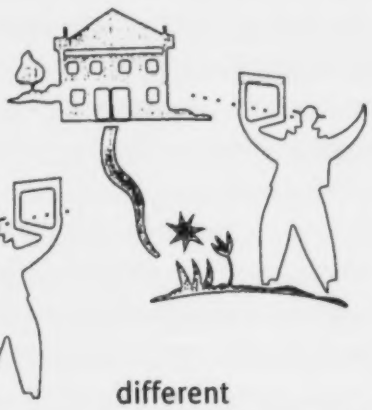
Compare your landscape observations on pages 9 and 10. What is the same? What is different?



the same	different

Thinking about Landscapes

Which view do you like the best? Why?

.....

.....

.....

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Schoolyard History Exploration

Every landscape contains stories about people and the past. By exploring a landscape, you can find out how people have used, valued, and changed the landscape over time. This activity challenges you to uncover some of the stories hidden in your schoolyard. Your mission is to find clues that help explain how people have used and changed the schoolyard landscape over time. The skills you use will prepare you for your Arboretum adventure. Make sure to do this activity with a partner.

To learn more about the history of your schoolyard, try the following:

1. **Look for physical evidence.** Can you find a date on the school building that tells you when it was built? Are some parts of the building newer than others? How do you know? Are there any trees? If so, do they look old or young? Why do you think someone planted them? Look for other clues that will help discover how people have changed the landscape. Record your observations on page 14.

2. **Look at photos.** Go to the school library or front office to find an old photo of the schoolyard. Compare the photo to the schoolyard today. What is the same? What is different? What is the date of the photo? Record your discoveries on page 14.

3. **Talk with a longtime friend of the schoolyard.** Your teacher has invited someone who knows the schoolyard well to speak with your class. Find out what they know about changes to your schoolyard. Ask them the questions on the Interview Card on page 15. Record your findings on a sheet of paper.

4. **Review the findings.** What have you discovered about your schoolyard landscape? What has changed? What is the same? What role have people played in changing the landscape?

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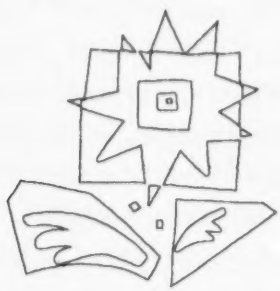
History Exploration Chart

	I looked at...	I discovered...
Physical Evidence		
	date of photo: → → →	
Photo		



Interview Card

1. When did you first see the schoolyard?

2. What did the landscape look like then?

3. How has the landscape changed since then?

4. What memories do you have of this place?

5. How does the landscape make you feel today?

   Why?

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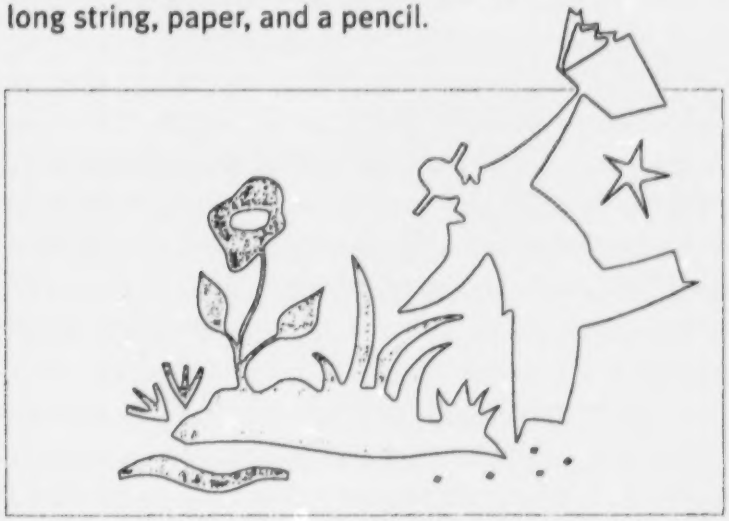
Schoolyard Nature Exploration

All landscapes include plants, animals, and other natural systems. Think about your schoolyard. How many different things do you think live there? Do some parts of the schoolyard have a greater variety of living things than others? This activity will help you uncover what's alive in your schoolyard! Your mission is to discover what lives and grows in your schoolyard, and record your findings using field notes. The skills you use will prepare you for your Arboretum adventure. The discoveries you make will give you a better sense of what makes up the schoolyard landscape.

To do this activity, you will need this field journal, a magnifying glass, two pieces of 10-foot-long string, paper, and a pencil.



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1. **Select two study sites.** Look around the schoolyard for the places where you think you'll find the *greatest* and *least* variety of living things. In each place, use string to outline a study site.

2. **Observe and record your findings at two study sites.** Go to Study Site #1. Look for insects, birds, and other animals. Find each kind of plant, including trees and shrubs. Make up a name that describes each of the living things you see. Record the names and number of each living thing you find in the chart on page 18. On a separate sheet of paper draw a picture of the most common plant. Repeat these steps at Study Site #2. Record your findings on page 19.

3. **Share your discoveries**. Compare your discoveries with your classmates. What similar things did your classmates find? What was different? What part of the schoolyard has the greatest variety of plants and animals? What animals did you discover? How many different things live in your schoolyard? Imagine the landscape had no living things. How would the look and feel of the landscape change?

4. **Talk with a longtime friend of the schoolyard.** Your teacher has invited someone who knows the schoolyard well to speak with your class. Find out what the schoolyard looked like the year you were born. Ask the guest what lived and grew in the schoolyard in the past. If possible, see if they can bring an old photo.

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How Many Different Living Things Did You Find?

Field Notes from Schoolyard Study Site #1

Your name _____

Date _____ Time _____

Location _____ Weather _____

	Name	Number
Plants		
Animals		
Other		

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How Many Different Living Things Did You Find?

Field Notes from Schoolyard Study Site #2

Your name _____

Date _____ Time _____

Location _____ Weather _____

	Name	Number
Plants		
Animals		
Other		

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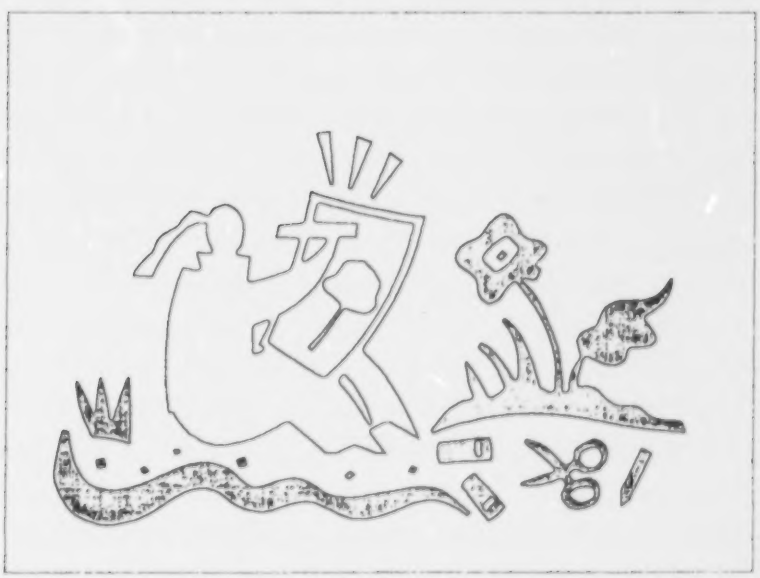
Schoolyard Art Exploration

Artists capture landscapes through things they create, like drawings and paintings. What they make is based on what they see and how they feel about a place. This activity challenges you to become a schoolyard landscape artist. To do this, you will need to pick a view of the landscape and study it carefully. Once you get a sense of what is there, try capturing it on paper! The skills you use will prepare you for your Arboretum adventure. The drawing you create will help others see the schoolyard landscape in a new way. Do steps 1 and 2 with a partner.



To capture a view of your schoolyard, try the following:

1. **Frame a view.** Follow directions for making a landscape viewer on page 7. Hold the frame a few inches from your face and find a view that you want to draw. To remember the view, find four features in the landscape that form the four corners of the frame.

2. **Describe shapes and colors.** Before you draw, work with your partner to identify the colors and shapes in the view. What shapes do you see? What colors? Which colors do you see most often? What is closest to you? What is furthest from you? Record your observations on page 22.

3. **Draw the view.** On a separate sheet of paper, draw your view using colored pencils or markers. When you are done, give your drawing a name and write the date that you created it.

4. **Record your feelings.** On the back of your landscape drawing, write several sentences to describe what you drew. Include what you liked and didn't like about the view.

5. **Talk with a longtime friend of the schoolyard.** Your teacher has invited someone who knows the schoolyard well to speak with your class. Ask the guest what shapes and colors they imagine when they think of the schoolyard. Are any of those shapes and colors in your landscape drawing? How does the landscape make them feel?

Artist's Schoolyard Record

- What shapes are in the view?

.....

.....

- What colors are in the view?

.....

.....

- Which colors do you see most often?

.....

- What is closest to you?

.....

- What is furthest from you?

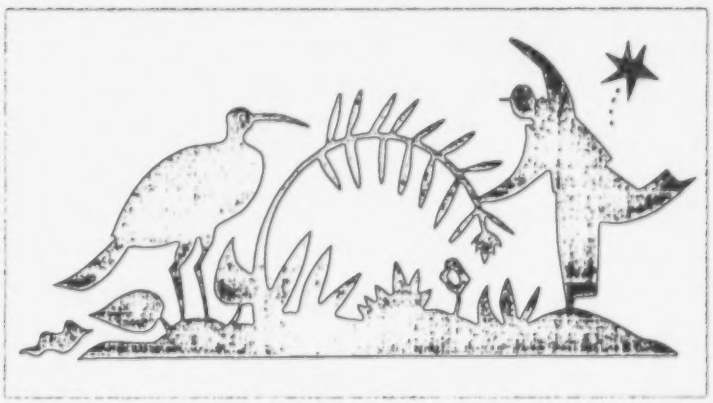
.....

Getting Ready for Your Arboretum Adventure

A big part of your Landscape Exploration takes place outdoors at the Arnold Arboretum. The Arboretum is like a big tree museum. It is over 100 years old. People go to the Arboretum to study trees and enjoy nature. It is in the middle of the city, but when you walk through it, you almost forget where you are. It is filled with trees, hills, valleys, and views of the Blue Hills and the Boston skyline.

During your Arboretum adventure, you will be part of a team that has a specific mission. Each team will explore something unique in the Arboretum landscape. We hope that the discoveries you make will help you to think about landscapes in a new way.

To find out about your exploration and mission, turn the page...



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This is the mission for each type of explorer.

Which one are you?

Historian...

Your mission is to find the site of the old Bussey mansion and draw a map that shows what the area might have looked like when the Bussey family lived there 150 years ago.

Naturalist...

Your mission is to uncover some of the mysteries of Hemlock Forest and make a record of what grows and lives there today.

Artist...

Your mission is to capture the magic and beauty of the Arnold Arboretum through a one-of-a-kind landscape mural.

Look at the Landscape Explorers Map of the Arnold Arboretum at the back of your Field Journal to learn more about where your adventure takes place.

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Dear Students,

We are glad that you are coming to the Arnold Arboretum during your landscape explorations. The Arboretum is a beautiful landscape and a tree museum all in one. Most of the trees have tags that show their name and homeland. We keep a record of each tree's history. Visitors and scientists come here from all over the world to study the trees. Welcome!

You will visit some remarkable tree collections while you are here. Are you ready to meet the Tortured Beech tree? Will you be surprised if you find yourself standing next to a 300-year-old Hemlock tree? Can you imagine a Spruce tree so huge that you can disappear beneath its branches? There is a lot to discover at the Arboretum!

Here is some advice. You will be outdoors exploring with your classmates for three hours. Be sure to wear comfortable and warm outdoor clothes. Wear tough hiking shoes or sneakers for trail walking.

Remember these two rules. At the Arboretum, just as in other city parks, you should not pick anything off the living plants. Also, sad to say, no tree climbing. Please help us protect our tree museum!

We hope you will enjoy your Arboretum adventure. As you will soon discover, there is more to landscape than meets the eye. We hope you are ready!

Liza Stearns

Liza Stearns
Olmsted National Historic Site
National Park Service
Education Specialist

Diane Syverson

Diane Syverson
Arnold Arboretum
of Harvard University
Educator

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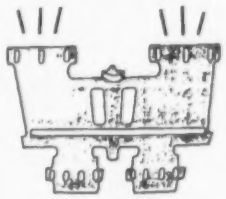
Designing Your Schoolyard Landscape

Now that you've explored landscapes at your school and at the Arnold Arboretum, you are ready to try designing a landscape of your own. This activity asks you to design a section of your schoolyard so that it meets the needs of the students who use it. Use your imagination to come up with a creative and exciting plan that makes your section of the schoolyard the best it can be! *Do this activity with three or four other people. You will need pencil, paper, mural paper, and markers or colored pencils.*

Finding a Landscape for Your Project

As a group, decide which part of the schoolyard landscape you'd like to re-design. Go to this spot and look around. Your answers to the following questions will help you decide what to change and what to keep the same:

- Who uses this area?
- What do they do here?
- What do people like about this part of the schoolyard?
- What don't they like?



Considering What to Put in Your Landscape

Schoolyards can have lots of different things in them. What would you like in your schoolyard? Use your responses to the questions on page 26 to think about what features to include in your section of the schoolyard. Brainstorm a list of features that you think will make your area fun, interesting, and useful. Here are some suggestions to get you started:

- a place to talk with your friends
- a place to jump rope
- a place to play basketball
- a quiet place to read or draw
- a place to park cars
- a shady spot
- a sunny spot
- a place to grow & study plants
- a hill that offers different views
- a place with trees & bird feeders

Planning Your Landscape Design

Now, imagine that you have the power to make your section of the schoolyard landscape the best it can be. What will you do? Design your landscape using some of the features from your list or the one above. Use the chart on page 28 to list each of the features you will include in your landscape, who will use the feature, and how it will add to the look and feel of the schoolyard.

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Drawing Your Landscape Design
As a group, use a large piece of mural paper and colored pencils or markers to draw your landscape design. When you are done drawing, write a paragraph to describe your landscape. Include who will use it, how it will be used, and how you think the landscape will make people feel. Give your design a name.

Looking at the Big Picture
Now that you've created a mural of the ideal landscape for your part of the schoolyard, find out what the rest of your class has done. Share your landscape design with the class and see what kind of schoolyard you'd have if you put all the landscape designs together. Does it work? As a class, discuss any changes you might make to create a truly neat and wonderful schoolyard.

Feature	Users	Effect on Landscape
1		
2		
3		
4		
5		
6		
7		
8		

use more paper if necessary

More Things to Read and Do

Places to Visit

Frederick Law Olmsted National Historical Site
Frederick Law Olmsted was the country's first professional landscape architect. His company designed thousands of landscapes from coast to coast. Visit Olmsted National Historic Site to learn more about the world of landscape design. Olmsted National Historic Site is located at 99 Warren Street in Brookline.

Boston's Emerald Necklace
The Emerald Necklace was designed in the 1880s by landscape architect Frederick Law Olmsted. His idea was to create a chain of parks, ponds, and green spaces to link different parts of the city. **Turn the page to find out about three places in the Emerald Necklace that you might like to explore.**

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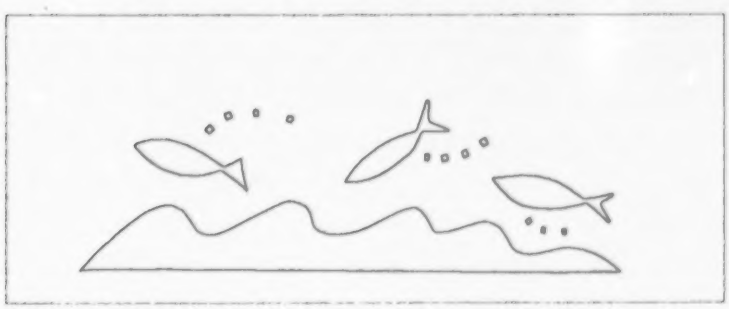
Arnold Arboretum The Arboretum is a terrific place to explore landscapes. It is a large area with hills, woods, ponds, and walking paths. From the top of Bussey Hill you can see the Blue Hills in one direction and the city in the other. The Arboretum is near the Forest Hills T Station in Jamaica Plain.

Franklin Park Franklin Park is the largest park in the city of Boston. The hills in the park are great for sledding and hiking. There are lots of trails to explore by bicycle. You might also want to watch ducks on the pond, or visit the animals at the Franklin Park Zoo. Franklin Park is in Roxbury.

Fenway Community Gardens The Fenway Community Gardens are planted and cared for by people who live around the Boston Fenway. Every garden is unique. The gardens are great to visit to see the different ways people design gardens. The Fenway Community Gardens are on the south side of the Boylston Street Bridge.



Things to Read and Do

If you enjoyed thinking about landscapes with us, here are some books with more ideas and information.

To learn about plants and animals that live among us:

One Small Square Backyard by Donald M. Silver. Published by W.H. Freeman and Company, 1993.

If you are interested in drawing and studying nature:

Nature All Year Long by Claire Walker Leslie. Published by Greenwillow Books, 1991.

If you want to read a story about one girl who convinced her neighborhood to turn a vacant lot into beautiful gardens, try this:

City Green by DyAnne DiSalvo-Ryan. Published by William Morrow and Company, 1994.

Try designing a city! This computer game challenges you to become a city planner. You decide where to put roads, buildings, parks, electricity, and all the other things needed in a city.

SimCity. Maksis Software. Moraga, California, 1989.

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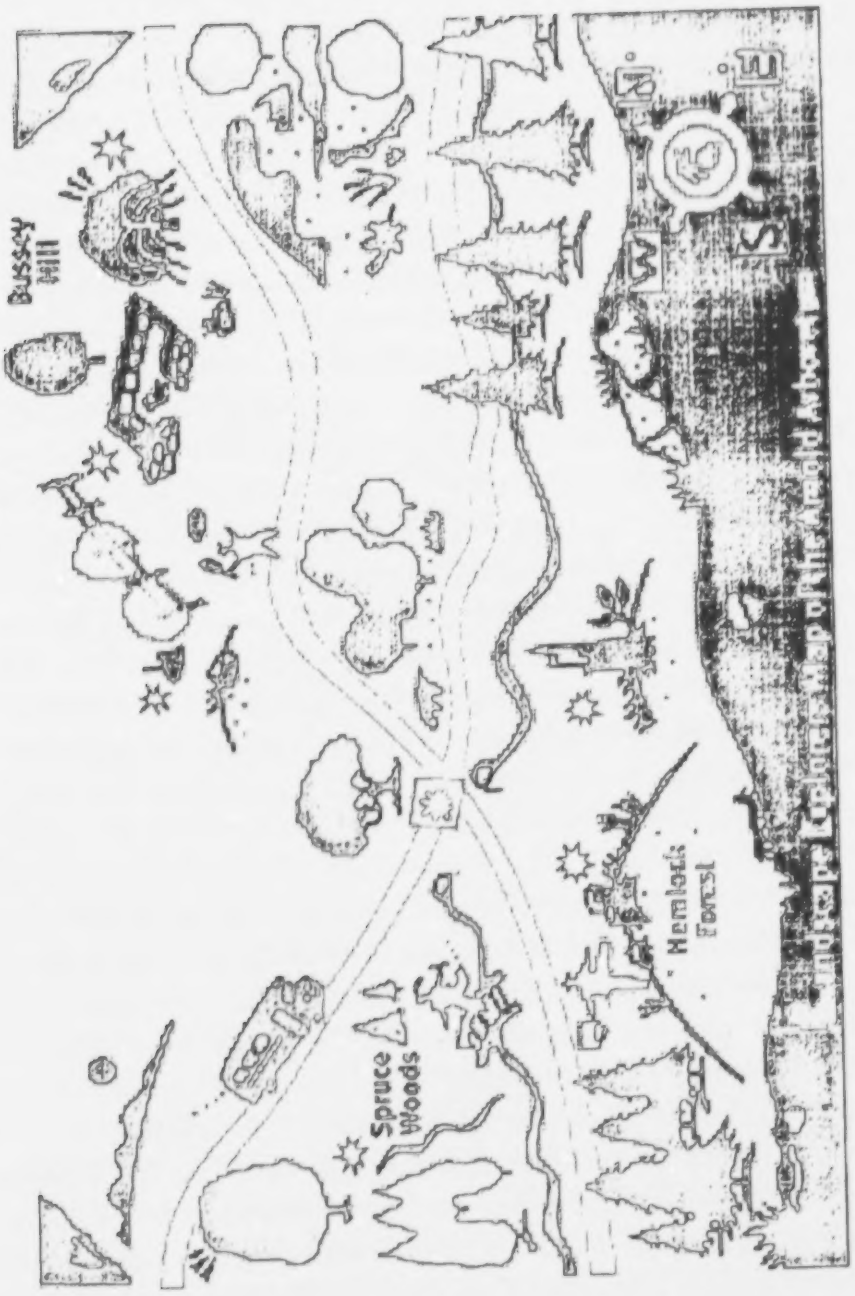

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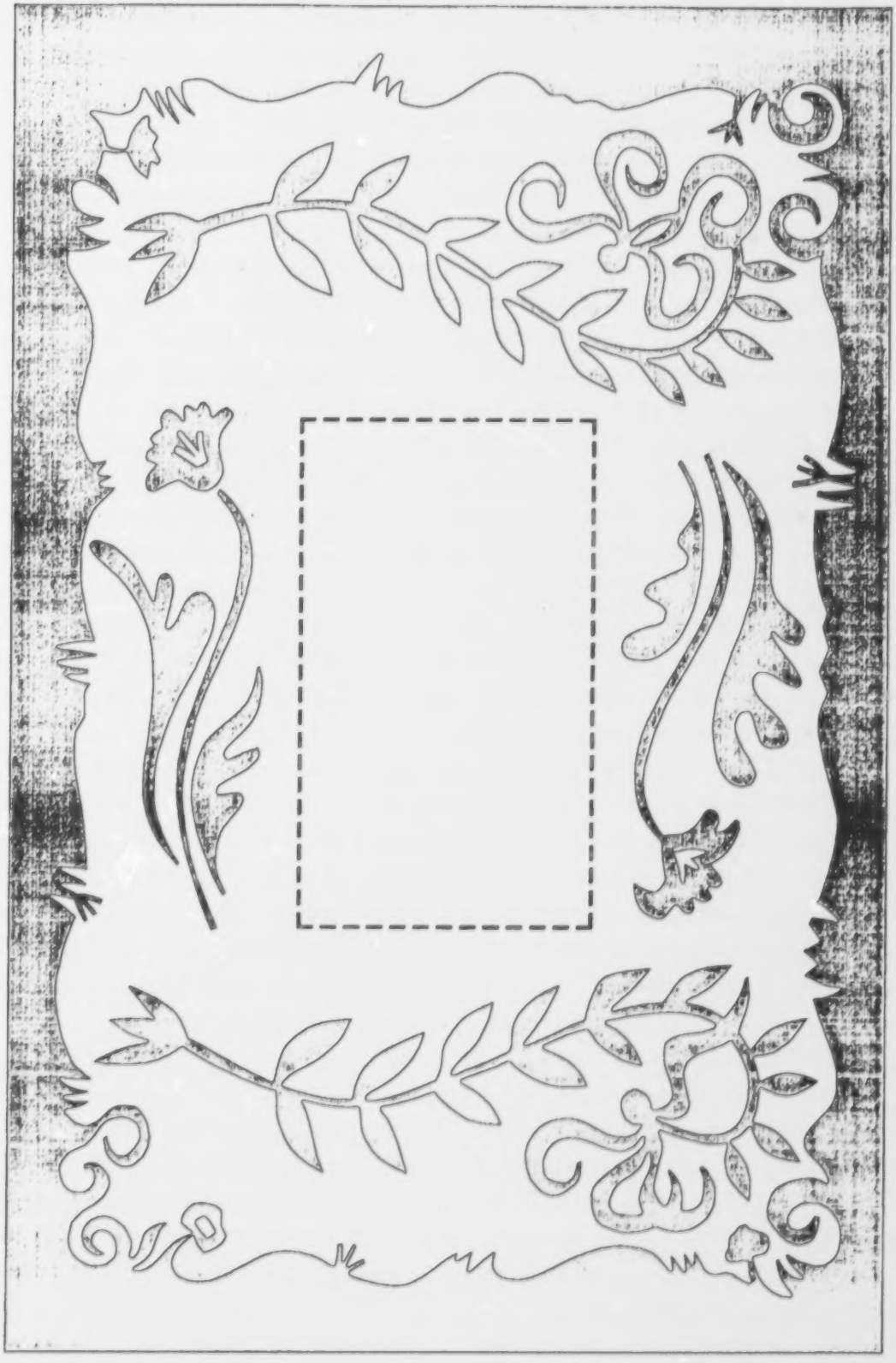

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The Landscape Explorers Photo Prints

Instruction for Use

Using Your Photo Prints

It is not necessary to store the photo prints in a binder.

Using this Curriculum

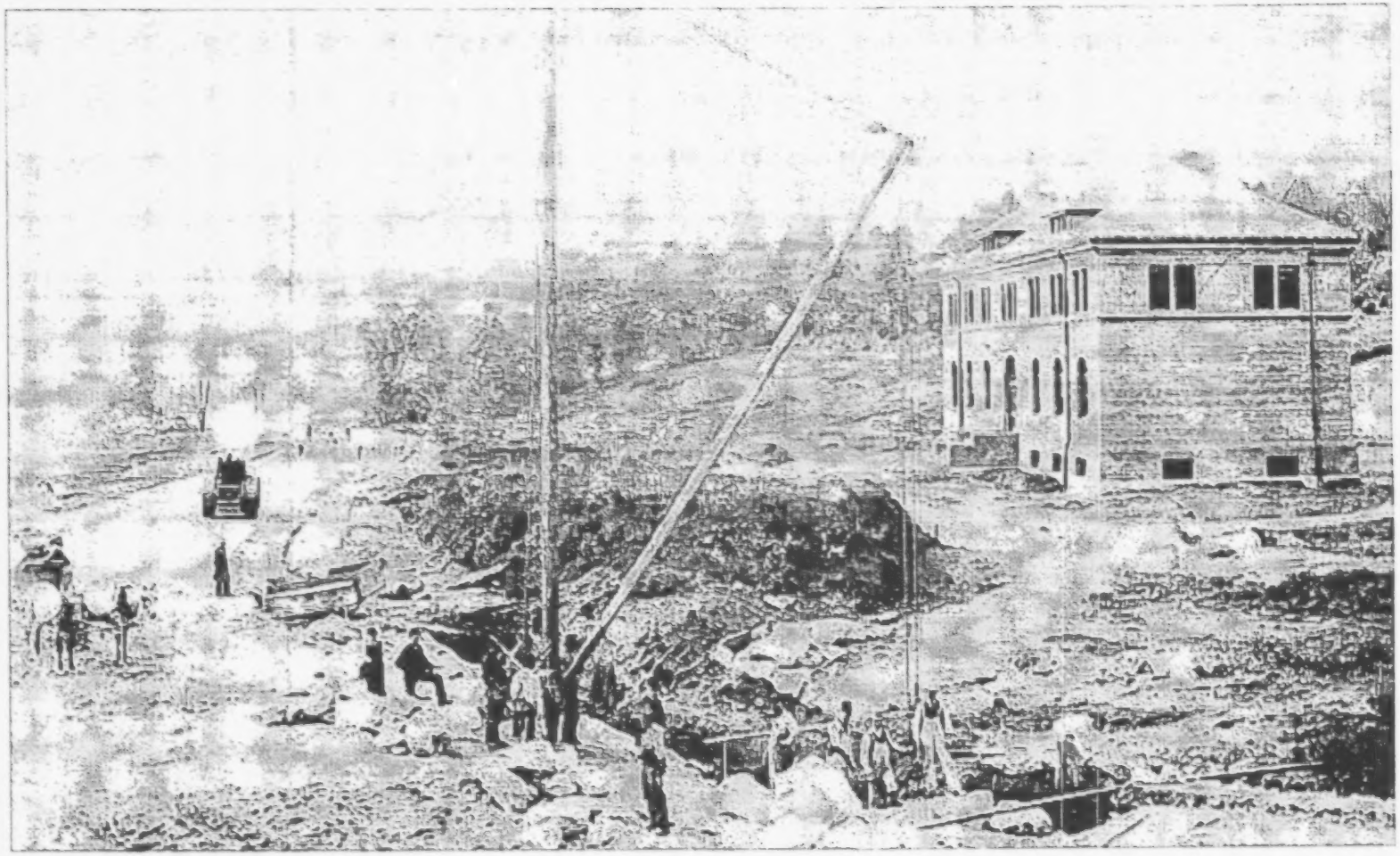
Landscape Explorers is an active, interdisciplinary, place-based curriculum that introduces fourth and fifth grade students to the concept of landscape and heightens awareness of the relationship between landscape and people.

Each class participating in *Landscape Explorers* needs:

- A Teacher's Guide with background information and lesson plans to help teachers facilitate student learning activities.
- A Student Field Journal for each student. The Student Field Journal includes background information and activities that spark imagination, creativity, and self-confidence as students develop new skills and understanding.
- A Photopacket with nine 8 1/2" x 11" color photos of Boston-area landscapes that students use with "Picture This!," a cooperative learning activity to heighten visual acuity and hone investigative skills.

For More Information

For more information on this curriculum or other programs at Frederick Law Olmsted National Historic Site, please contact the site's Education Specialist at (617) 566-1689, x 204.
Email: liza_stearns@nps.gov



Hunnewell Building at Entrance to Arnold Arboretum, 1892.

FROM THE PHOTOGRAPHIC ARCHIVES OF THE ARNOLD ARBORETUM

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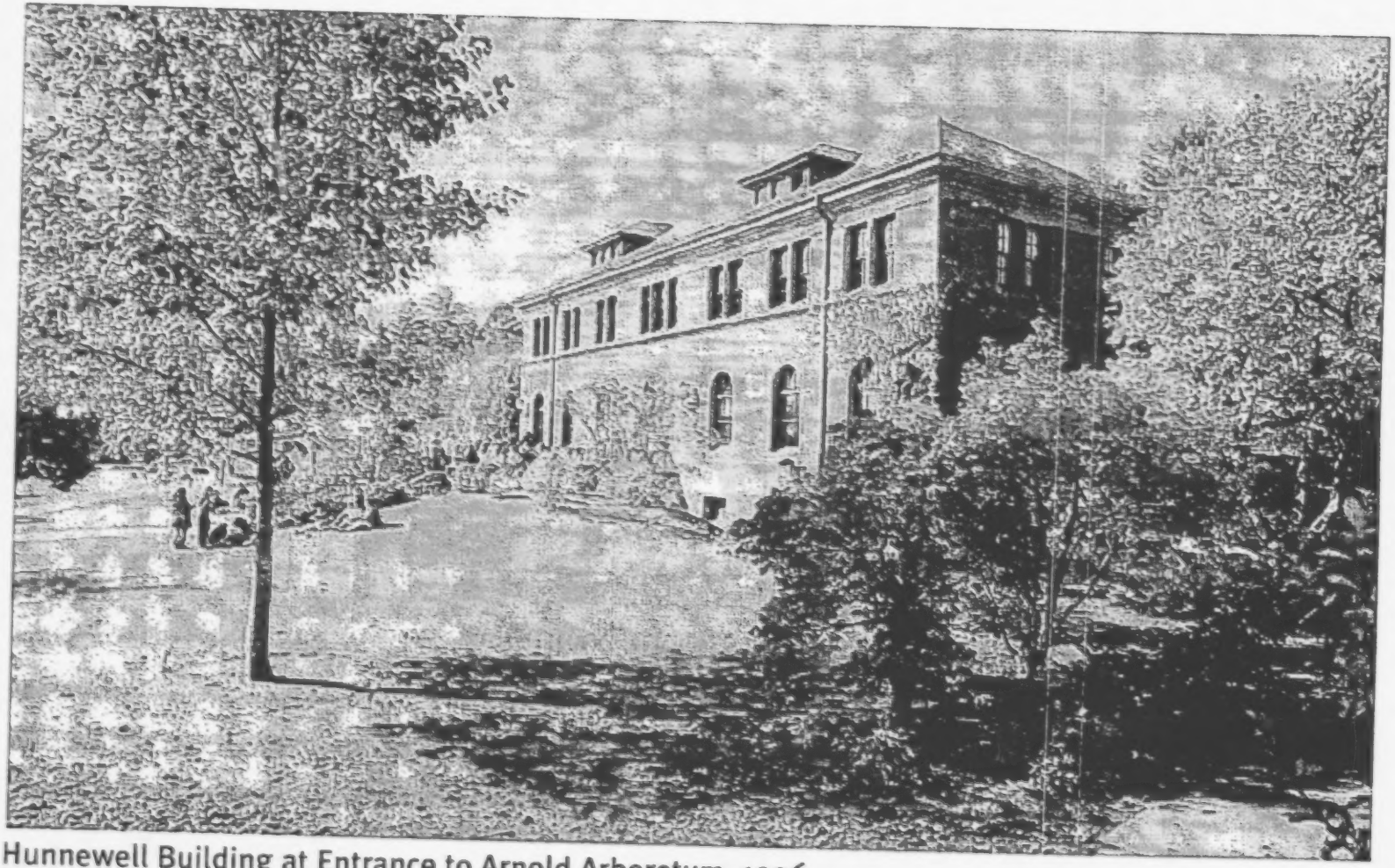

Hunnewell Building at Entrance to Arnold Arboretum, 1996.

PHOTO BY JAMES HIGGINS

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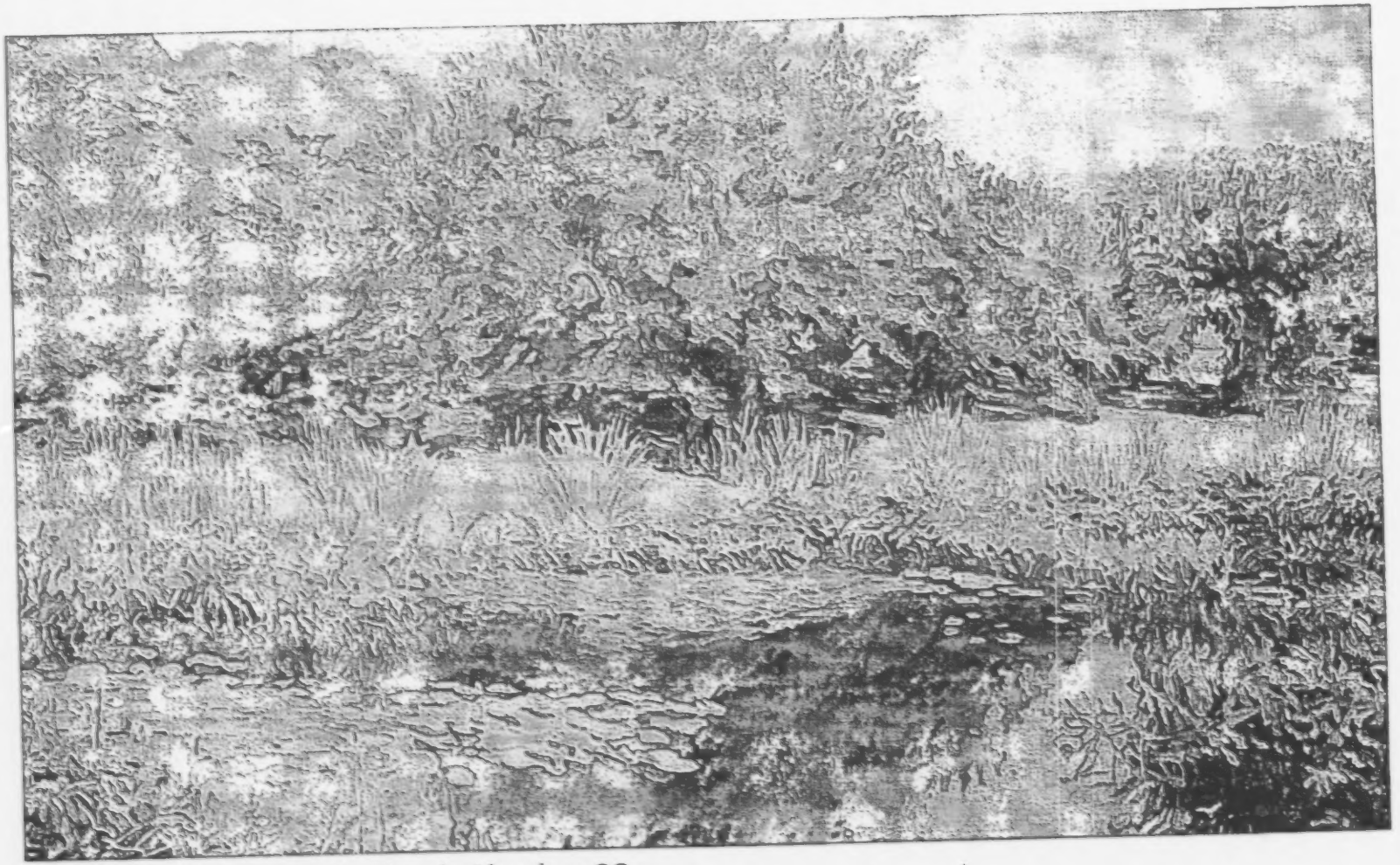
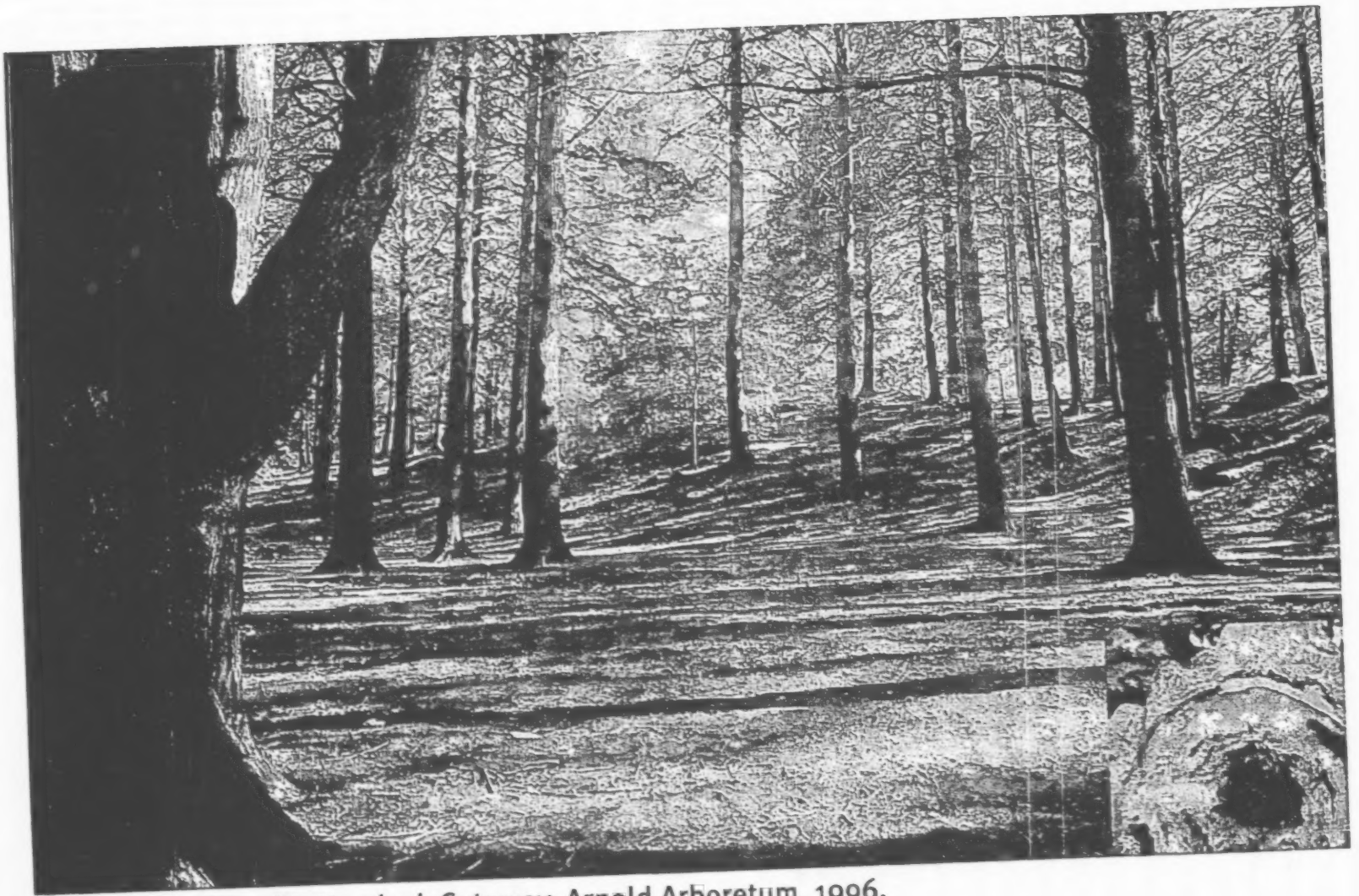


Arboretum Summer II by Marcia Lloyd, 1988.

COURTESY OF WELLINGTON MANAGEMENT COMPANY COLLECTION



Hemlock Forest with Hemlock Cutaway, Arnold Arboretum, 1996.

PHOTO BY JAMES HIGGINS

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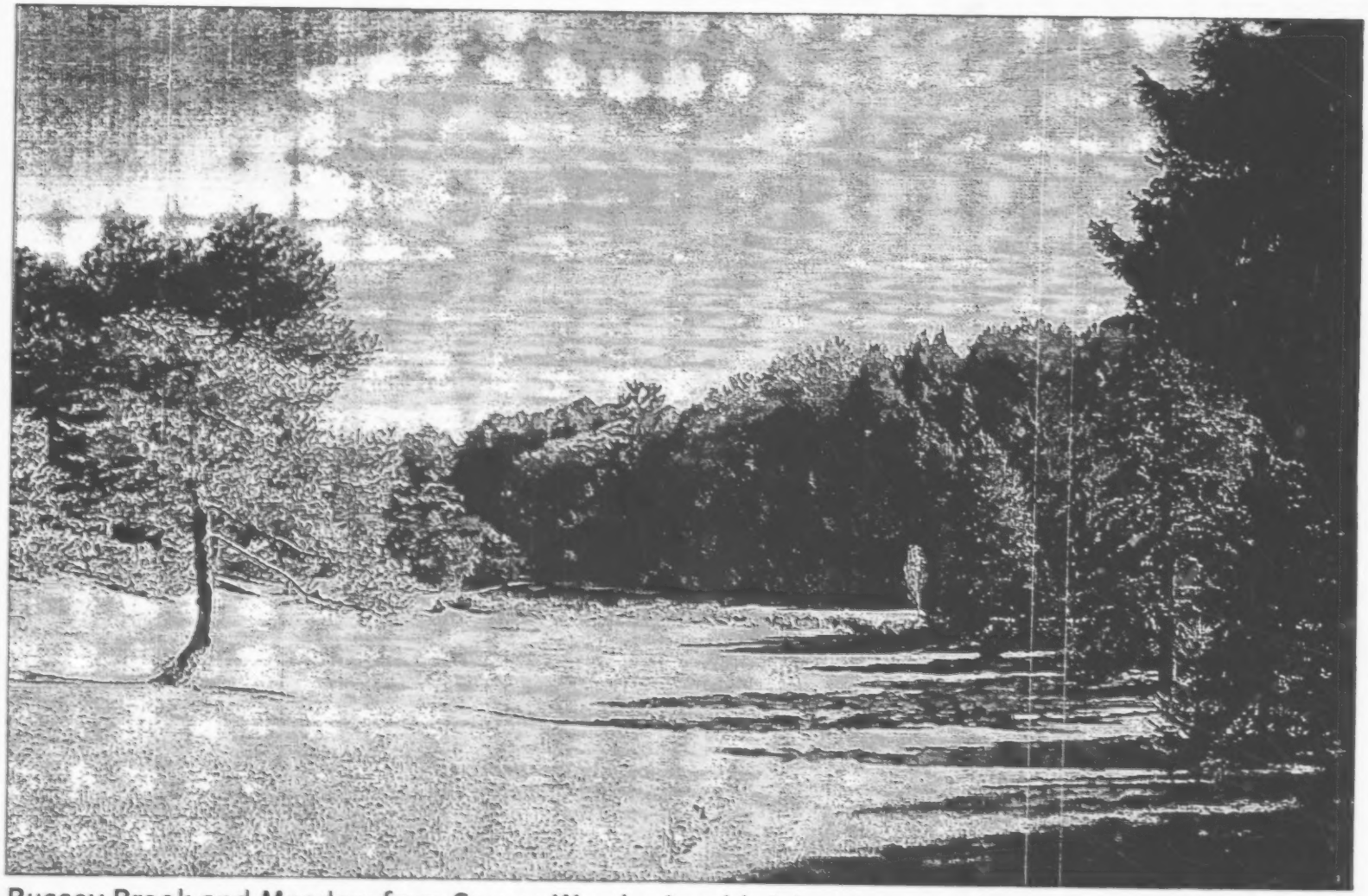
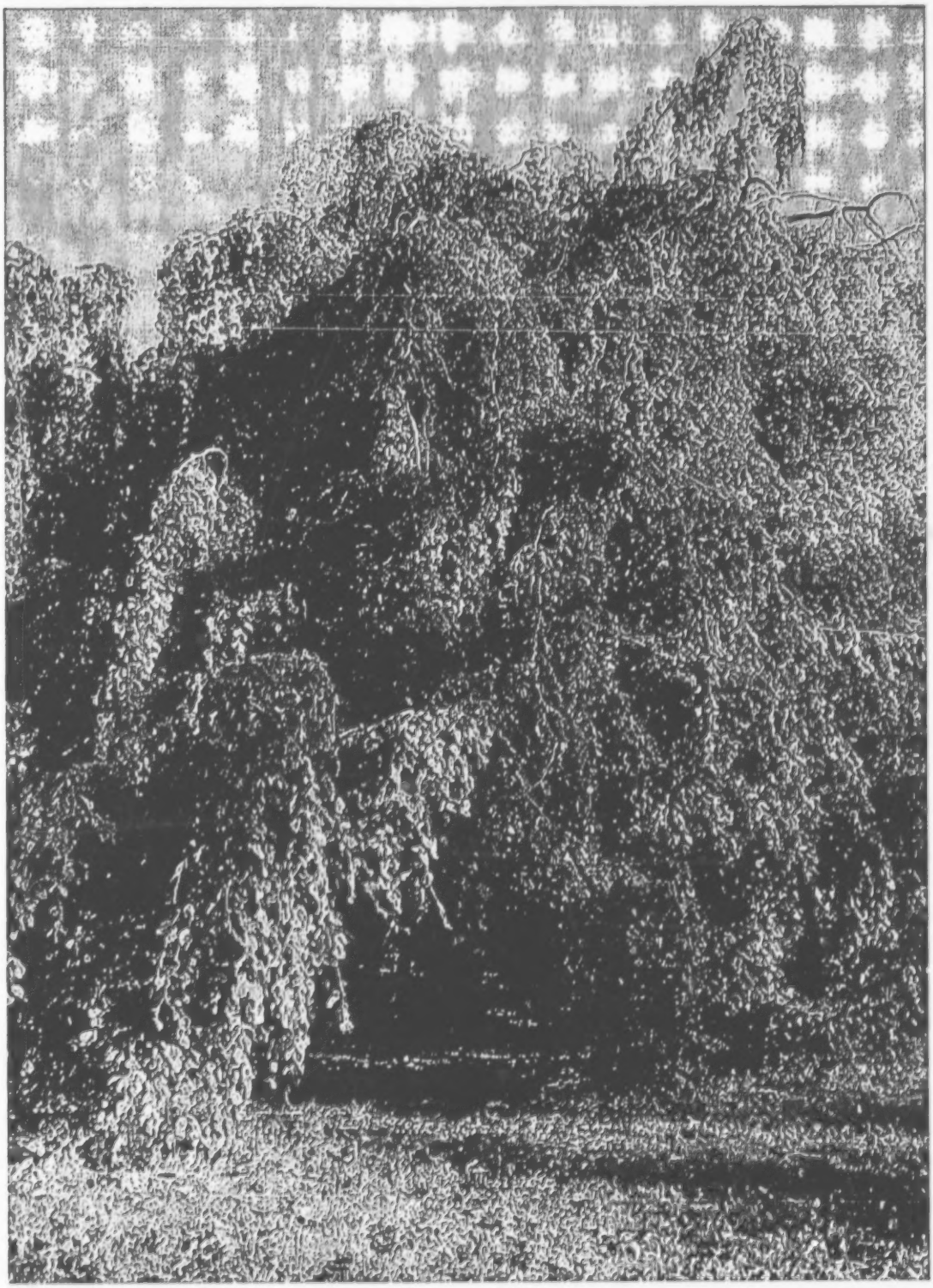


Bussey Brook and Meadow from Spruce Woods, Arnold Arboretum, 1996.

PHOTO BY JAMES HIGGINS



Weeping Beech on Bussey Hill, Arnold Arboretum, 1996.

PHOTO BY JAMES HIGGINS

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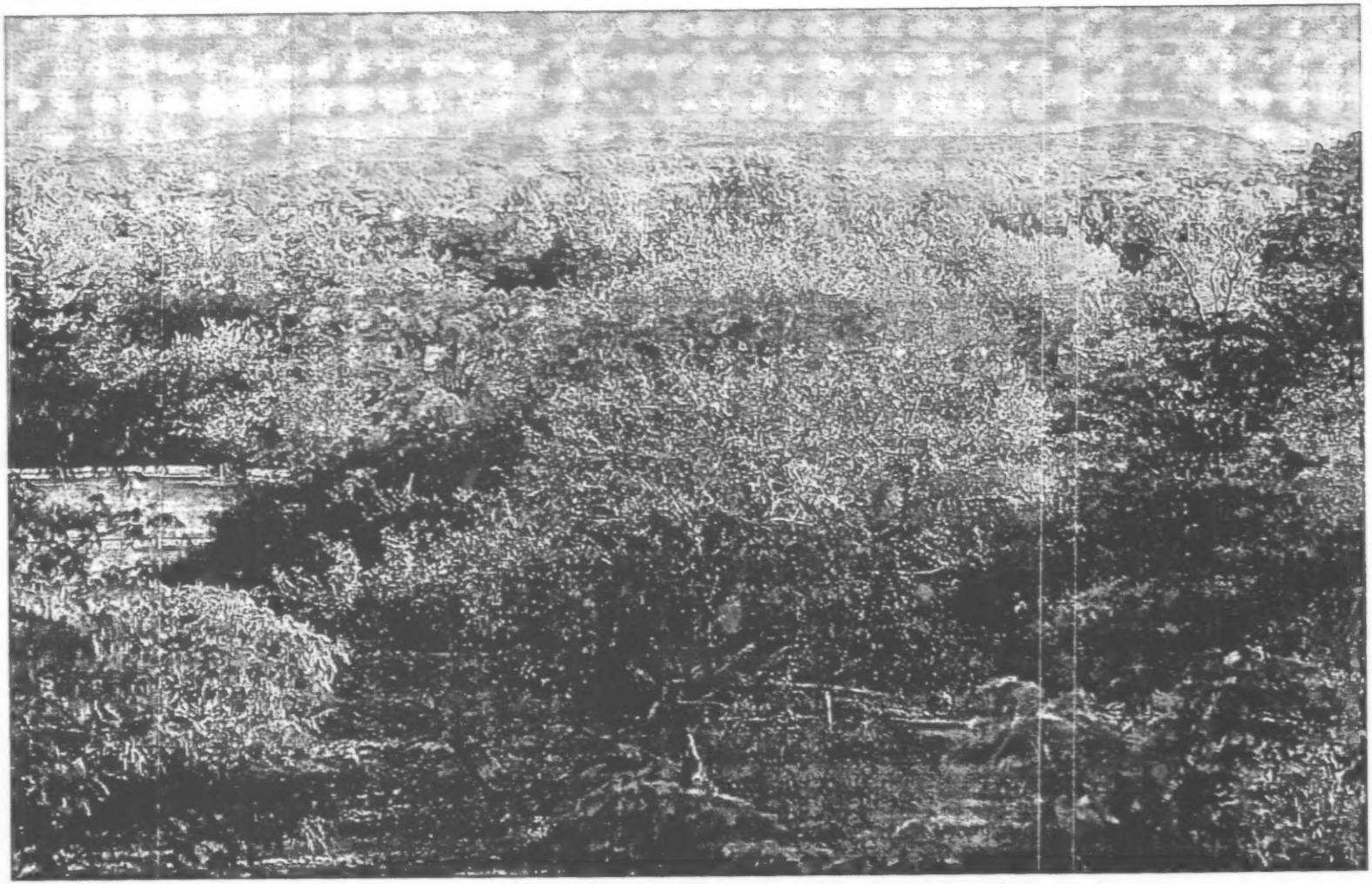

View of the Blue Hills from Bussey Hill Overlook, Arnold Arboretum, 1996.

PHOTO BY JAMES HIGGINS

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Central Square, Cambridge, 1996.

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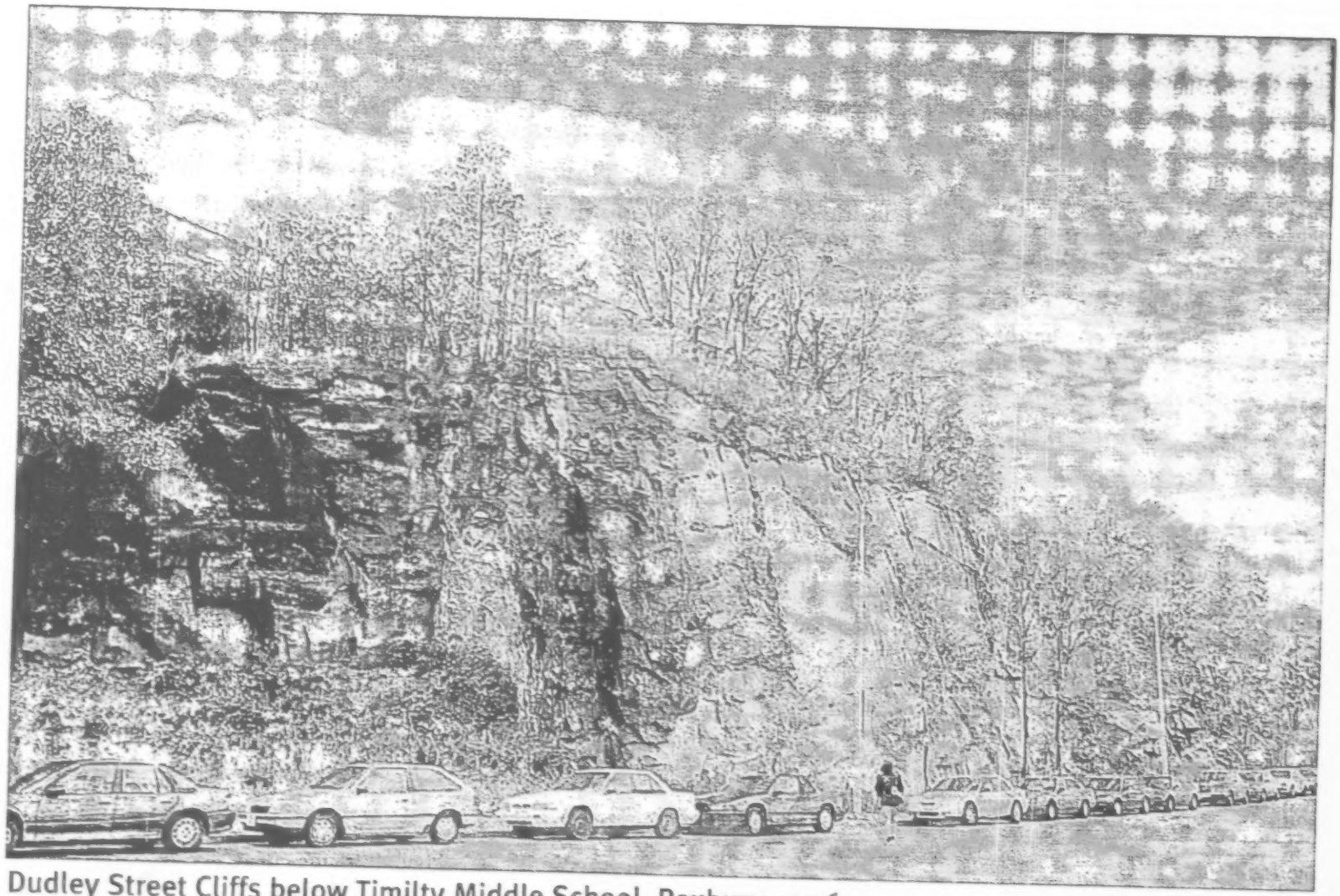

Dudley Street Cliffs below Timilty Middle School, Roxbury, 1996.

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